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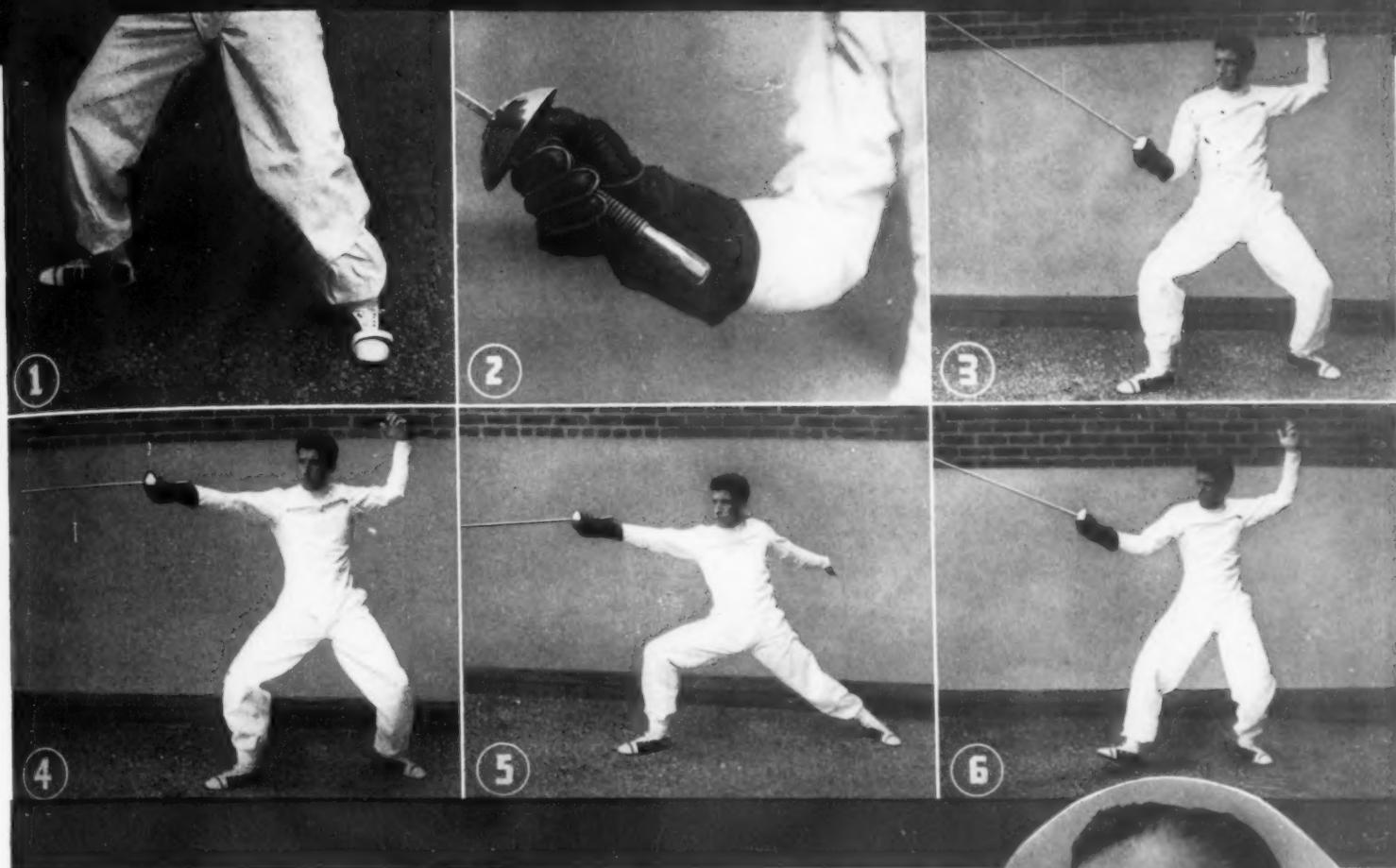


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BULLETIN ...



MASTERING THE LUNGE

By WOLF READE

In discussing technique the lunge can be divided into three phases: (a) position of the legs (picture No. 1) both legs are bent at the knees with the right foot forward and at right angles to the left foot. (b) The Grip (picture No. 2) the foil is grasped and controlled by the thumb and index finger. The rest of the fingers are closed naturally around the handle and give firmness to the grip. The left hand is curved toward the head. (c) The Lunge (picture No. 3-6); extend the right arm at shoulder level, keeping the shoulder relaxed. Start the lunge by advancing the right foot straight forward, at the same time fully extending the left leg but holding the left foot stationary and flat on the floor. Simultaneously, straighten and lower the left arm, palm upward, to a position approximately parallel with the left leg. In the recovery from the lunge (last picture), the left leg pulls and the right leg pushes the body back to its original position.



WOLF READE
Fencing Coach
UNIVERSITY OF CALIFORNIA
LOS ANGELES



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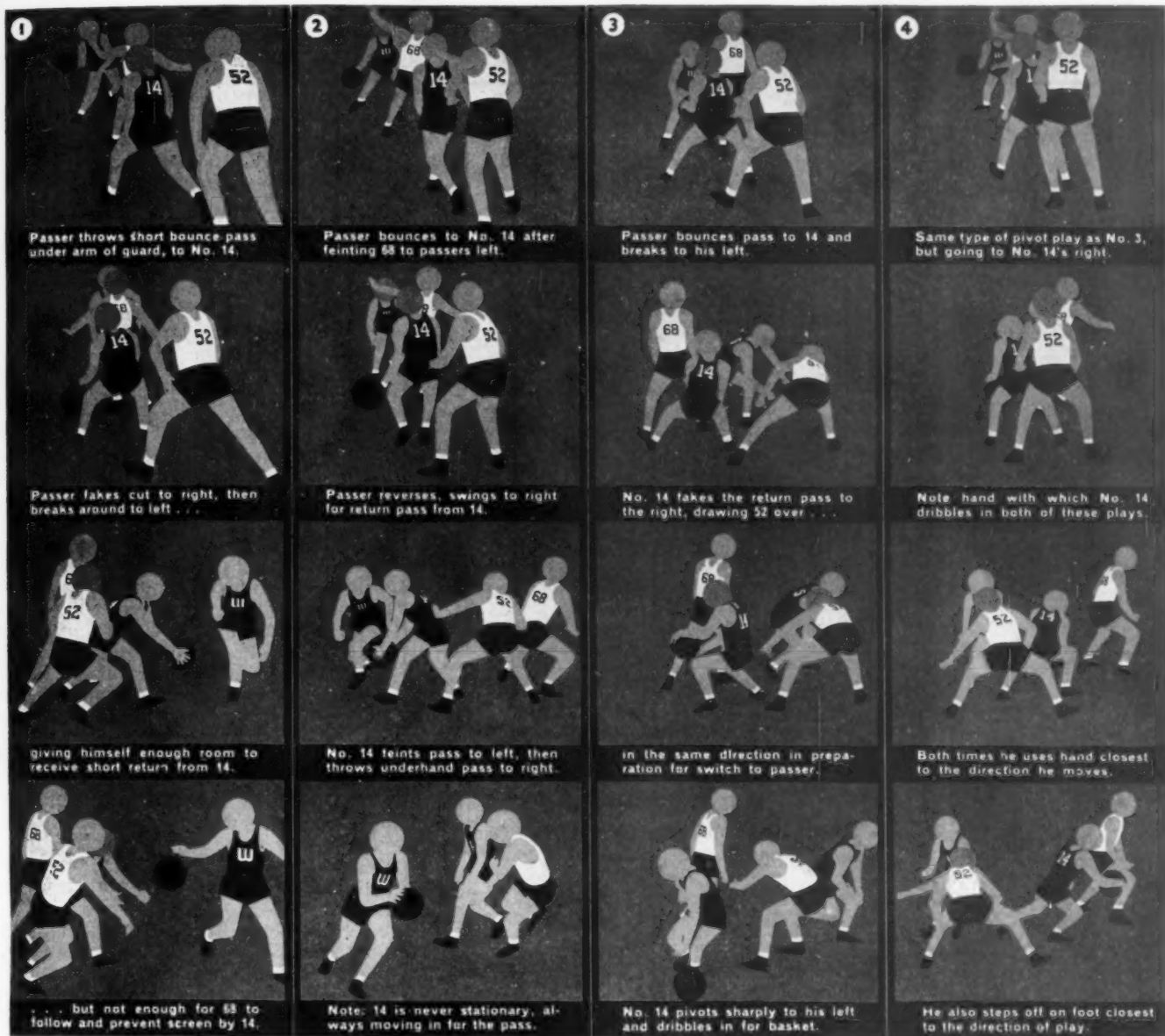
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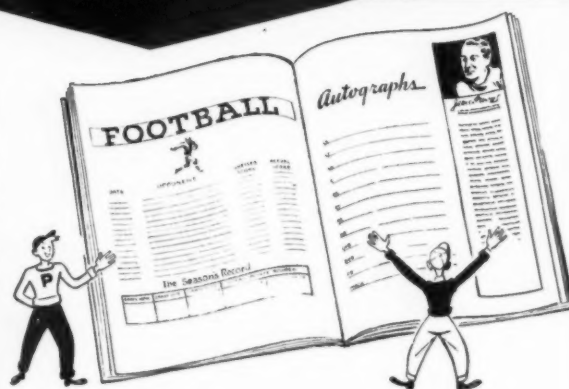
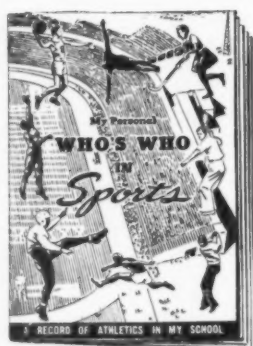
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Oklahoma Supreme Court Sustains State Association

IN A decision which may have far reaching consequences, the Oklahoma State Supreme Court recently decided that the state high school athletic association cannot be mandated to compel it to restore eligibility to a high school boy who had been declared ineligible for one year for a violation of the rules.

The case had been brought to court by Bill Roberts, aged seventeen, co-captain of the Holdenville High eleven who had been declared ineligible for one year by the state association for accepting an award of a gold football from an outside agency. Earlier in the year Roberts had appealed successfully to the District Court for a writ to compel the association to permit him to participate in athletics. The case was carried to the Supreme Court by the high school athletic association, which sustained the State Board of Control and reversed the lower court. A part of the decision follows:

"It is a matter of common knowledge that in various athletic organizations, and in various athletic contests, certain officials are clothed with final authority to construe rules and enforce penalties, and to suspend players from the game in progress, or for a definite period of time, or to forfeit the game or the match to one participant or the other. Frequently such rule enforcements work more or less grievous injury to one directly affected thereby, without in any sense giving him a right to correct or change the result by court action such as this. The courts generally should leave the final authority in the athletic official or board, with whom that authority is placed by those who had authority to make the rules and authorize the method of application and enforcement.

"The plaintiff has many rights as a citizen and as a high school student, but he has no vested right in 'eligibility' as dealt with at such great length in the rules of the Oklahoma High School Athletic Association. The defendant Board of Control was clothed with ample authority to so construe, apply and enforce this rule, with its specific provision for 'ineligibility' for one year.

"... There is nothing unlawful, or evil in any of those rules (of eligibility) nor in the provision resting final authority in the Board of Control. Surely the schools themselves should know better than any one else the rules under which they want to compete with each other in athletic events. And doubtless every one of these rules is founded upon reasons wholly satisfactory to the member schools. And if the officials of the various high schools desire to maintain membership in the association, and to vest final rule enforcement authority in the Board of Control, then so far as affects the affairs of the association, the courts should not interfere."

SCHOLASTIC COACH

Reg. U. S. Pat. Off.

IN THIS ISSUE VOL. 8, NO. 4

HERE BELOW	5
ANOTHER WEAPON FOR THE OFFENSE	6
By Blair Gullion	
AGAINST THE ZONE	8
By Preston Beaver	
ATTACKING FROM A DOUBLE PIVOT-POST	9
By William R. Wood	
A DEFENSE OF THE ZONE DEFENSE	12
By Ellery R. Purdy	
ATHLETIC AND NON-ATHLETIC INJURY SURVEY	14
By Charlie H. Foster	
CONSTRUCTION OF AN ICE SKATING RINK	16
By Claudia Gavrilova	
GIRLS' OFFICIATING PROCEDURE	23
By Wilhelmine Meissner	
GIRLS' A. A. NOTES	25
NEW BOOKS ON THE SPORTSHELF	26
DRAMA OF THE DIAGRAM	28
By Ralph E. Hensley	
COACHES' CORNER	30
Conducted by Bill Wood	
SPOTTING THE SHOOTERS	32
By V. W. Lapp and G. T. Chubb	
NUTRITIONAL VALUES OF VITAMINS IN ATHLETICS	36
By Dr. Robert J. Fraser	
DOES IT PAY TO PLAY IN THE RAIN?	40
By Howard G. Richardson	

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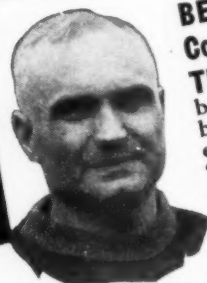
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DESPITE the fact that the rules making bodies in the various sports are a group of hard-working, progressive men, almost every sports code has a number of interpretations of doubtful value which survive only because of tradition. Some of these interpretations were put into the book at a time when they had a specific purpose which has since disappeared. They remain in the code because the rules framers, when they convene after every sports season to amend, discard or add to the rules, are most vitally concerned with legislation relative to problems of timely significance.

Following are a few questions which deserve some thought: In football: Why can no one but the referee kill the ball and thus stop play? The officials are supposed to be equally responsible for all decisions and it is assumed that they all know when a ball is dead. Yet despite the fact that there are many situations where it would be better for all concerned if the umpire or field judge had authority to "blow" the ball dead, the rules restrict this prerogative to the referee.

For example, a player intercepts a forward pass or catches a kick near his own goal line. He advances the ball and steps on the boundary line almost directly in front of the umpire or field judge. Neither has the authority to signal the ball dead and, consequently, since the referee is a considerable distance away, the player continues on down the field and may run ninety yards before he is tackled and piled upon to end the down. The sum total of all this tremendous effort is nothing. The runner and several other players are worn out, there has been unnecessary exposure to injury and there is considerable delay in bringing the ball back to the spot where the boy went out of bounds.

All this would have been avoided if the other official had had the right to kill the ball. Situations like these are avoided in basketball by an officiating system in which we have two officials with almost equal authority.

Parallel situation

A PARALLEL situation occurs in connection with a fumble which strikes the ground and is then recovered by the opponent. This might happen directly in front of one of the other officials but the runner, not being sure whether he recovered the fumble before it struck the ground, may expend a lot of wasted energy running with a ball that was dead at the spot.

Of course there are times when a foul does not kill the ball, and it might be argued that the umpire's horn is necessary to protect him and show that he did not make up his mind to call

Here Below

"Information Please"

Mr. H. V. Porter, who is secretary of both the National Federation Football Rules Committee and the National Basketball Committee, poses a few questions on rules

the foul after observing the subsequent action. This protection is probably hypothetical because the spectators usually do not hear the horn. If such protection is necessary it could easily be provided by having the official give some other visible signal at the spot of the foul.

A related question may also be in order. Why shouldn't the ball be killed when backs are in motion or when there is an illegal shift? About the only reason why play has been allowed to continue is the possibility of a fumble in the subsequent action which might be recovered by B. In these situations the chance of a fumble is so remote that it is doubtful whether it counterbalances the extra wasted time and energy that is taken when the play is allowed to go through to completion.

Why is it necessary to have two stakes on the yardage line outfit? There have been a number of cases where a player received a serious injury as a result of tripping over one of the stakes or becoming entangled in the chain. The only purpose of the chain is to measure ten yards at the time a new series of downs is started. After the forward stake has been anchored, there is no further use for the other pole and the chain except when it is carried on the field to measure the distance from a given yard line. The chain might just as well be detached and placed where it will do no damage. The forward stake and the number box tell the distance that must still be gained.

Another question which has been raised and which is difficult to answer follows: Why should a team be allowed to profit consistently by committing a deliberate foul such as when they illegally touch and down a kicked ball? It is about the only situation of its kind in the game.

With all the developments in pneumatic padding, why couldn't it be possible to pad the goal posts head high with an air filled pad so that injury couldn't possibly result even if the posts were placed back on the goal line? Probably at least two-thirds of the football men in the country would

prefer to have the posts back on the goal line except for the injury hazards involved. This might be a solution to the problem.

Now that radios are turned off and on and are regulated by a mystery control box, why couldn't the same principle be applied to a signal in football and basketball which could always be heard above the noise of the crowd? The Referee would carry a small control box instead of a whistle which would operate a siren stopping play, thus preventing the many difficulties which arise because the players cannot hear the whistle. Even a small crowd of

several hundred can make enough noise to drown out the sound of the whistle. And when the attendance runs into the thousands, the whistle, at exciting moments of the game, is almost a futile instrument.

An optical illusion

IN CONNECTION with basketball it is a known fact that the traditional cover design was adopted because of the shape of the four panels which must be used when they are to be sewn together into a spherical shape. This design lends itself to the sewing but since the lines all run in one direction it results in an optical illusion, so that a ball which is a perfect sphere in shape appears to be larger in circumference at right angles to the lines, giving it a pumpkin-shaped appearance.

Manufacturers of the old sewed-type ball usually recognized this difficulty and made the axis parallel with the lines a trifle longer than the other axis. Consequently the ball which appeared to be best in shape was actually longer in one axis than the other. Now that balls are being made without sewed seams, there is no longer any reason for the present design except that basketball men, who have become accustomed to the traditional design, like the appearance. Probably some other design would be just as pleasing to future basketball players and would not cause the optical illusion.

Why is it necessary to have a basketball backboard which contains at least one-third waste surface? Probably a fan-shaped board would ultimately be more pleasing to the eye and would contain all the necessary banking surface without the disadvantages of the unused portions which block the view of the ball going through the basket and reduce the angle from which a shot from near the end line may be made.

The National Basketball Committee is planning to make investigations along this line during the coming season. Newly designed boards will be tried out and data collected relative to their effect on the game.

ANOTHER WEAPON FOR THE OFFENSE

By Blair Gullion

Under the latest rule change a player without the ball can stay indefinitely in the far half of the free-throw circle

Major change in the basketball code this year is the rule opening the far half of the free-throw circle for unrestricted occupancy by an offensive player without the ball. The possibilities which this rule will open to the attacking team are described by Blair Gullion, former coach at the University of Tennessee who is now coaching at Cornell University. He is the author of "100 Drills for Teaching Basketball Fundamentals" and "Basketball Fundamentals Analyzed."

CHANGE is not always progress. When the rules framers drove the old pivot play out of the game in 1935-36 with the three-second rule, many coaches and fans of basketball thought they had gone to too great an extreme. The rough play attendant to the old bucket play had to be curbed, and the three-second rule did it. But most coaches believed that the restriction should not have extended to the entire free-throw area. For three years the National Association of Basketball Coaches attempted to prevail upon the National Basketball Committee to allow the offense some freedom in the free-throw circle. But their efforts met with failure until this year.

At the last meeting of the National Basketball Committee, Rule 14, Section 12 of the basketball code was changed to read that *"a player shall not remain for more than three seconds in any part of his free-throw area while he is in control of the ball; nor remain more than three seconds in that part of the free-throw area between the free-throw line and the end line while the ball is in control of other members of his team."*

Under the old ruling, the player was limited to three seconds in the entire area, with or without the ball. The change permits him, when not in possession of the ball, to station himself in the outer half of the circle for an indefinite period. If he receives the ball in the free-throw area, the three-second rule applies as in the past.

This change was made after considerable discussion and research both for and against the proposal. Since the change is a modification of a prior ruling, it will be well to study the facts behind the adoption of the old rule. The old three-second rule was adopted to eliminate the rough play attendant to the pivot-post style of offense. At the time of the adoption of this legislation, it was agreed that the pivot-post play was an officiating problem rather than a discrepancy in the basketball code.

Nevertheless, the purpose in adopting the three-second rule was to take some of the burden off the official. While the rule has not greatly handicapped the pivot play and has resulted in less strain on the official, the major criticism of the rule by coaches is that it has been instrumental in the tremendous increase in the use of the zone defense and various combination or loose man-to-man defenses.

The restricted area has long been regarded as the key territory in attacking the zone defense. Prior to the adoption of the three-second rule, the usual procedure against a zone defense was to place a rangy player under the basket and revolve the offense around him. On passes to this player, the defense would have a tendency to close in on him, allowing the other attacking players to get off good medium-length shots and to work under the basket if the rear line was drawn up. This player was the spark plug of the attack against the zone. And when the rules makers "drew his teeth" by imposing a three-second restriction on his play in the bucket, it became extremely difficult for the game's teachers to devise methods of penetrating the zone. Many teams had no idea whatever of how to attack them and as a result basketball interest in these communities diminished considerably.

Compromise rule drafted

Since all rules changes are designed primarily to obtain a balance between offense and defense, it was only natural that this disparity should come up for discussion at the annual meetings of the National Association of Basketball Coaches. Many coaches advocated the return of the pivot play while others were in favor of the rule as it stood. However, the great majority of the coaches felt that the old pivot play encouraged the use of the "freak" whose only stock in trade was his height, and that the three-second rule in the entire free-throw area gave the advantage to the defense. Therefore, a compromise rule was drafted and submitted to the legislators for ratification. After turning it down for three years, the National Basketball Committee accepted it this year.

In order to obtain the general reaction of the country to this rule

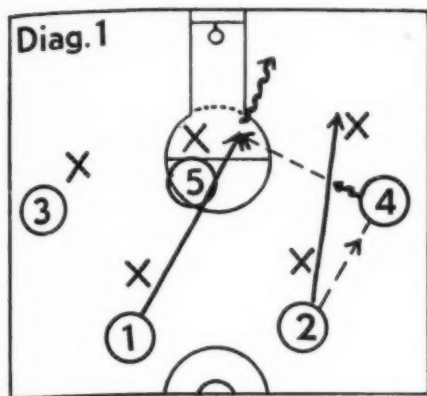
change, the writer solicited a number of the leading coaches in the various basketball centers of the nation. Several opinions follow:

Coach George Keogan of Notre Dame has always been a leader in the fight to give the offense an even break against zone and loose defenses. He says, "It is known by all coaches that a man in that position (outer half of free-throw circle) is very necessary in playing against a zone defense. He was of little or no value in there for the past two years, with or without the ball. But the new rule allows him to remain there as long as he wishes without the ball, and the three-second rule applies only when he has the ball. Therefore, the new rule allows you greater liberties than the old rule. I sincerely believe that it is going to help a great deal in meeting these various types of group defenses. . . . The type of offense based on a man in the free-throw circle is simple but very effective and I am sure all coaches of small schools are glad to have the change."

Coach O. B. Cowles of Dartmouth (Eastern Intercollegiate League champions) believes that the rule "will allow better distribution of offensive players and should eliminate congestion with an improved game as the result . . . will help eliminate errors made by officials who have been over-officious in calling violations of the three-second rule on the player with the ball . . . am heartily in favor of maintaining the present restrictions in that part of the free-throw area between the free-throw line and the end line."

Coach Roy Mundorff of Georgia Tech. (Southeastern League champions) has been very active in getting the present change and is also in favor of the return to the pivot game with the abolition of the entire rule. Mundorff points out the handicap of any restricted area to high schools playing on floors 60 by 30 ft. with low ceilings and other handicaps of space. This condition is not only prevalent in the South but can be found in all sections of the country. The results of a questionnaire sent out throughout the South by this popular coach indicated a desire by Southern coaches to abolish the three-second rule entirely.

Coach Lew Andreas of Syracuse University believes, "that the new rule will help somewhat against the zone defense, but that it is a great mistake to restrict the area at all.



Pivot-Post Screens

Diag. 1 shows the possibilities of using the pivot man, 5, as a post or screen. 2 passes to 4 and follows his pass to set up an inside screen for that player. 4 comes out with a short dribble and passes to 1 cutting by 5 in the free-throw circle. If X5 shifts to pick up 1, 5 may pivot and cut for the pass from 4. This play may be worked by any of the other players, using 5 as a screen.

In Diag. 2 the center (5) cuts from the up-pivot position to a deep-pivot position. 2 passes to 4 while 5 cuts for the basket for the secondary pass. 4 follows his pass and runs his man into 5. 3 feints as if to go behind the pivot man but changes direction and crosses in front of him on the opposite side. 2 sets up an inside screen for 1 who cuts for the basket if free or suddenly stops to take a pass from 5 and shoots.

Diag. 3 outlines a plan for a delayed or "freeze" offense based on the rule change. When the man guarding 5 falls in directly behind him, the latter is used as the pivotal point of the attack. The players on the outside move the ball and look for an opportunity to get the pass through to him. The players may screen for each other or use the pivot man as a post. If 5's guard is overshifted either to the right or left, the attacking players on the outside move the ball rapidly and wait for a chance to flip a pass to 5 cutting for the basket.

If a player in the outer half of the circle had time to handle the ball after he received it without time restriction, it would be a great advantage over the present rule."

Coach Ward Lambert of Purdue University (Big Ten champions) feels "that allowing a pivot man in the upper half without the ball adds some space in which to operate but does not give the big center such an advantage on short shots and rebounding as without the three-second rule. . . . Believe it to be a good compromise."

Everett Dean, the former Indiana coach now at Stanford. "Many coaches are wondering just how much this change will affect the coaching and playing of the game. The modification of the three-second rule will give slight relief to the rigid restrictions of the past two or three years. It will be of definite help in combating the zone defense. It will also give the pivot man a little more freedom in maneuvering and setting up blocks in the outer half of the foul ring. I think it was a very good rule change providing the coaches do not abuse the pivot play as they did prior to the introduction of the three-second rule. Without doubt, this slight change is a step in the right direction for better balance between offense and defense."

It is generally felt that the change in the rule will have the following effects:—

1. Afford better distribution of offensive players with a corresponding spread of the zone or bunch defenses which will open lanes for cutting for shorter shots and a more varied attack.

2. Facilitate somewhat the attack against the zone defense, but still not open enough of the territory to equalize the balance between offense and defense.

3. Give an increased opportunity for scoring from the center area.

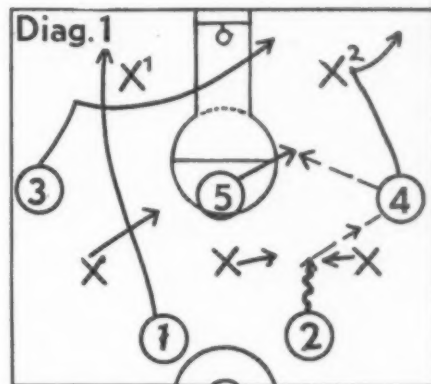
4. Allow better cutting angles by the player stationed in the outer half of the circle.

5. Allow some variation of attack against the man-to-man defense, but not permit a general return to the pivot game since the threat of the hook-shot from 15 feet out is not strong enough.

6. Allow better offensive rebounding through the better rebounding position gained by stationary play in the unrestricted area of the circle.

7. Make less decisions for the official and thus speed up play by fewer interruptions in the game.

8. Permit use of screen play where players cut across the pivot man stationed in outer half of the circle without the ball.



Penetrating a Zone

In Diag. 1, 2 dribbles to suck in the two defensive men in front of him, and passes to 4 who whips the ball over to the pivot man. 4 feints to cut behind X2 to draw his attention to the outside, and then drops into the corner. 5 may feed either 4 in the corner, 3 crossing, or 1 about eight feet out from the basket along the end line. If he is open 5 may take the shot himself.

Diag. 2 starts out the same way with 2 sucking in the defensive men by dribbling forward. But this time he passes to 1 and cuts for the basket to draw X1 over with him. 3, who had started for the corner while 2 was handling the ball, comes back to take the pass from 1 and rifles it into the pivot. If X1 moves up to take 5, the latter may pass to 2 or to 4 after X2 has been pulled back by 3's diagonal cut.

In Diag. 3, 2 again initiates the play by drawing the defensive men together. He then shoots a pass in to the pivot man. 4 drives across the basket to pull X1 in toward the center, while 3 cuts behind him for the pass from 5. The latter then breaks for the basket to divert X1's attention, and 4 comes back to the side of the free-throw lane to take a pass from 3. 4 may shoot or pass to 5. In all of these plays the pivot man, 5, cuts to the edge of the circle to receive any passes, and usually uses a short dribble to get out of the restricted area.

AGAINST THE ZONE

By Preston Beaver

Believing that the zone defense is taught at the expense of more fundamental principles of defense, Preston Beaver, coach at Mercersburg, Pa., High School, writes on the con side of the zone defense.

A YEAR ago the *cause célèbre* in basketball was the zone defense. The increase in popularity of this type of defense (and probably the difficulty most coaches experienced in piercing it), divided the coaches of the country into two camps—one side firmly advocating legislation to curb it, and the other side just as firm in their pro stand.

The elimination of the center jump after field goals last year, relieved somewhat the pressure on the zone defense since the coaches had something more timely to occupy their attention. But the issue of the zone defense still remains, more vital than ever, for the elimination of the center jump tended to increase the popularity of the zone.

While the writer realizes the validity of most arguments in support of the zone defense, he believes that there is a time and a place for this type of defensive tactic. Coaches who do not approve of the new rule in which the team scored upon receives the ball under its basket, claim that they must use some method of giving their boys a breathing spell; others use the zone defense because they believe it is an excellent set-up from which to start a fast break upon gaining possession of the ball; another school of coaches use it because it provides excellent protection against pick-offs or blocks and the fast break; and some coaches who have long schedules and tournament play after the regular season claim that it gives their boys the needed rest.

In rebuttal to these pro arguments, are the following questions: why not teach players the advantage of mixing the slow break with the fast break; why not impress upon them the need for clean ball-handling

and what the loss of the ball means; why not teach them to switch in pick-off or block situations; why not think of the welfare of the boys and formulate a safe and sane schedule?

Previously, the writer mentioned something about a time and place for the zone defense. The time and place is in that high school or college where the very basic principle of the zone defense has already been taught—individual defense or the so-called man-to-man. A player cannot master the zone type of defense, where he is often called upon to guard two or more offensive players at one time, until he knows how to guard one man properly. Even a good zone defense very rarely can stop five good ball-handlers on a regulation-sized court. However, it may be done in a "box-car" sized gymnasium.

Zone is a crutch

The writer's severest criticism of the zone is its use in small high schools where the boys have not first been taught individual defense. Coaches of such schools, when asked their reasons for using the zone, invariably reply, "My boys are so poor at man-to-man defense that I am forced to use it." In short, the zone is their crutch or last resort to teach defense.

Yet in watching these same teams play, the writer has seen the players leaving their feet at the wrong time, taking their eyes off their man, playing their man too close, using cross-over steps when they should be using the box step, playing the ball instead of the man, and turning their back to the man they are guarding.

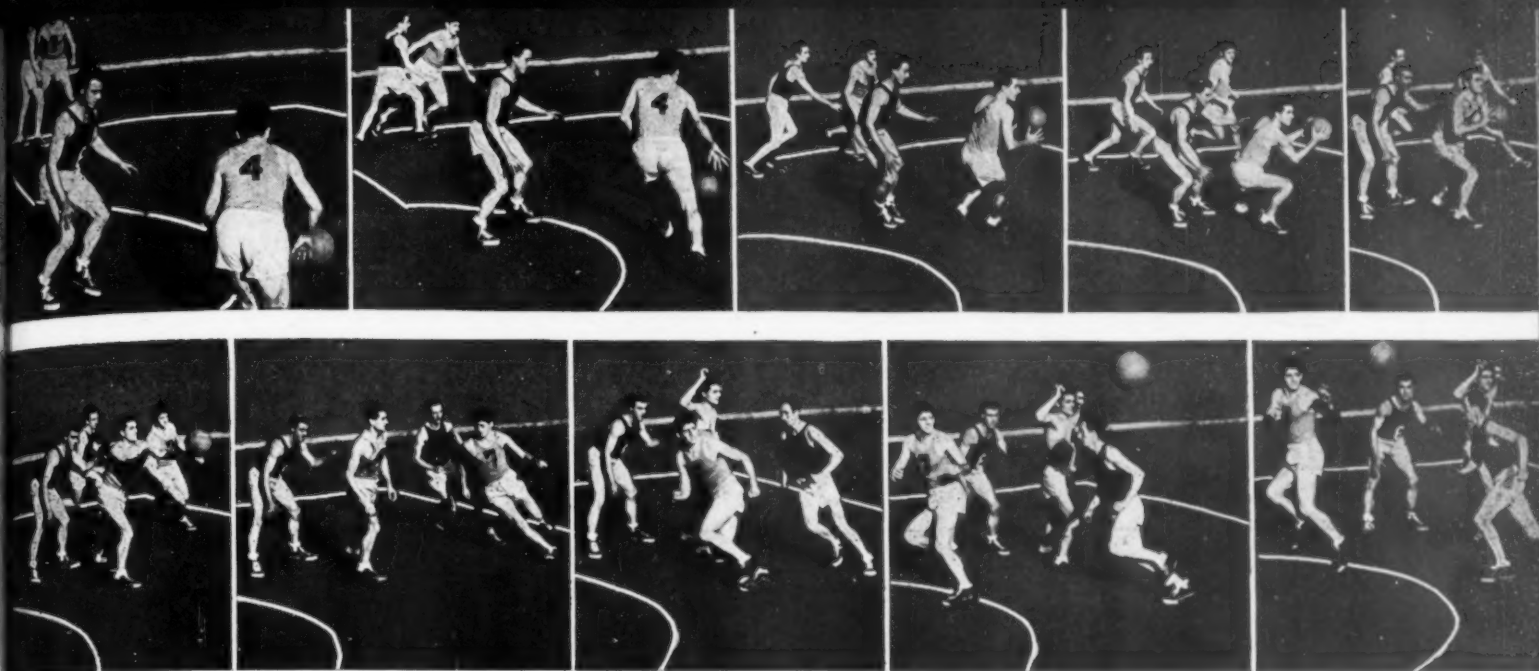
These coaches should spend a little more time on the fundamentals of offensive play (ball-handling, cutting, return pass, moving the ball and man, etc.) and such defensive fundamentals as the proper use of feet and hands, stances, when to leave the feet, not to play the man and the ball too closely, etc. In teaching these basic fundamentals of team offense and defense, the coach gives the player the fundamental skills that will enable him to cope with any situation that may arise in a game. You may lose a few games this way, but you will be more deserving of the title, "coach." After all, the easiest way is not necessarily the right way. We all realize that victory is desirable, but there are other things that also should and

(Concluded on page 33)



Fake Shot and Dribble

After receiving a pass in the outer half of the free-throw circle, the ball-handler (No. 4) pivots on the left foot and steps back on the right. As he brings the ball over-head for a pass or shot, the defensive man lunges forward and attempts to bat the ball down. 4 quickly lowers the ball and dribbles through on the inside. Note, in the last picture, how the dribbler cuts off the guard from the ball by using the hand furthest away from the guard to dribble and dipping his right shoulder so that it is almost impossible for the guard to get at the ball without fouling.



ATTACKING FROM A DOUBLE PIVOT-POST

By William R. Wood

William R. Wood, basketball coach at the University High School of the State University of Iowa, conducts the "Coaches' Corner" department for Scholastic Coach. In November, 1934, the author contributed an article on the single pivot-post attack in which the post was set up squarely on the foul line. In another article last December, Wood drifted entirely away from the pivot idea and described a simplified figure 8 offense. The versatile Mr. Wood now presents some possibilities from a double pivot-post set-up in which the posts are stationed on the sides of the free-throw lane.

MANY coaches believe that the pivot-post attack will come back strong this year. They base their presumption on the latest rule change which allows an offensive player without the ball to take a position in the outer half of the free-throw circle and to stay there for any length of time.

When the three-second rule drove the old bucket play out of the game three years ago, many basketball teachers were forced to discard their pivot system and build their attack around something else. Other men, loath to abandon a system that had paid dividends, merely moved the man out of the free-throw lane and set him up somewhere between the lane and the sideline. During a period when the defense appeared to be dominating the offense, these coaches continued to operate with a single or double pivot-post.

Undoubtedly, these men will return to the wars this winter with joy in their hearts and little variation in their attack. It is extremely unlikely that they will move the post back into the free-throw lane. As long as the man in the bucket cannot move in under the basket and hold the ball for more than three seconds, the fate

of the pivot-post attack, in its original form, is sealed. Even though the new rules permit the pivot free parking space in the outer half of the circle he is still too far back to constitute a scoring threat. And that's what made the pivot system click in the old days. A big, shifty man could turn every once in a while a drop in a basket. As long as he was in a scoring position his guard would have to stay close and think twice before switching to a man cutting off the post.

Under the new rules the closest the pivot man can set up to the basket is 15 feet—too far away for accurate shooting but a good position as far as screening is concerned. However, this may be overdone. If a man is always sent into the free-throw lane to function as a post or screen, his guard can gum up the entire attack. Knowing he has little to fear from the pivot as a scoring threat, the guard may drop back four or five feet and

jam up the middle, picking up any man cutting off the post.

It seems, then, that to make the most out of the latest rule change, the pivot men should keep moving in and out of the lane. Many coaches have been doing this during the past three years but a mental hazard handicapped the pivot. Fearful of remaining in the circle too long he was often unable to maneuver freely into a good position to receive the pass. With the new rule in effect this year, this mental hazard is entirely eliminated.

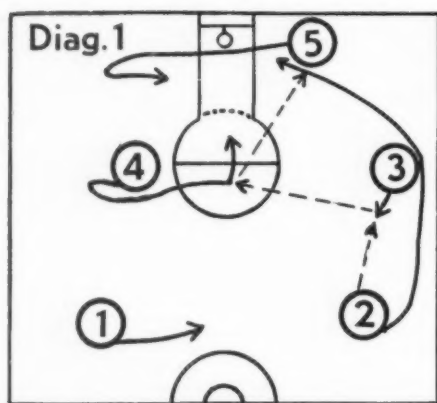
At University High we are going to use the same type of double pivot-post attack we used last year. We believe it should be even more effective under the new rules. The system is built around the individual talents of the players. Last year our guards, numbers 1 and 2 in the accompanying diagrams, were fast but very poor shots. One forward (5) was big and slow and handicapped by a bad knee, but he was an excellent shot with either hand. We set him up under the basket where he could use his height to advantage and didn't have to move around too much. The other forward, 3, and the center, 4, were exceptionally clever ball-handlers. Hence, the pivot-post attack seemed the logical offense to adopt.

Diagram 1

The diagrams outline some interesting possibilities from the double pivot-post set-up. The principle of going - behind - the - receiver - after-the-pass, one of the oldest and simplest maneuvers that has its place in almost every system of play, is

Sideline Screen

In the pictures at the top of the page, No. 7, perceiving that his teammate, No. 4, is too strongly guarded to dribble through to the basket, takes advantage of the circumstance to work a clever screen play and shake loose for a clear pass to the basket. As 4 dribbles past the free-throw circle, 7 starts jogging along the end line and then up the side of the court. The dribbler, realizing that he is getting nowhere, pulls up short, pivots and shoots a pass to a teammate (not in the picture) located near the center of the court. As 7 comes up to a point opposite 4, he changes direction with a sudden burst of speed and cuts sharply off his stationary teammate for a pass from the ball-handler. Ordinarily, 7's guard is run squarely into the post.



shown in Diag. 1. The play may be started by either of the guards, 1 or 2. Although there is some danger of 1's long pass to 3 being intercepted, almost invariably 1 will be wide-open for a shot after he has gone behind the screen created by 3 in handling the ball. Normally, however, the first pass will go from 2 to 3. 2 follows the pass at top speed, cutting as close to 3 as possible in the hope of running his man into the post.

As the play starts 4, the center, tries to draw his opponent out of position by edging toward the opposite sideline before cutting back fast into the free-throw circle to receive the second pass, usually a low bounce, from 3, who cuts in back of 4 to the edge of the free-throw circle for a set shot in case 4 is unable to get the pass through to 2 or if the latter has not worked himself free. Occasionally 4 is able to drive in directly for the shot. However, the play is usually completed with a pass from 4 to 2 driving in hard for the set-up.

The moment 3 passes to 4, 5 slides across the basket, drawing his opponent with him, in order to create an opening for 2. If X5 shifts to pick up 2, the latter can whip a quick pass to 5 or 4 has the option of pivoting and passing to 5 for a set-up on the opposite side of the basket. If X3 shifts to pick up 2, 3 is wide open for a return pass from 4 and a set or dribble-in shot. When all avenues leading in are blocked, 4 can pass out



to 1 to start another or the same play. Usually, the play will go through as diagrammed with 2 getting a close-in shot with 5 and 4 helping out on the follow-up and 3 and 1 in good position to drop back quickly on defense. The possibility of using a similar play down the left side of the floor is readily apparent.

Diagram 2

In Diag. 1 the principle of the player - going - behind - the - receiver was used; in Diag. 2 exactly the opposite principle, that of the passer - going - in - front - of - the - receiver, is applied. The play begins with a pass from 1 to 2. 1 then cuts across the middle of the floor in front of the receiver to set up a screen for 3, who has started down the outside toward the basket in an attempt to draw his opponent into the trap.

Meanwhile 4 has been edging toward the sideline in order to pull his opponent out of a strong defensive position in the free-throw circle; he comes back fast to receive a pass from 2 and bounce passes quickly to 3 (if he has lost his opponent on the screen) for the dribble in. 5 has drawn his opponent into the corner and is ready to dash back to help out on the defense, if necessary. If X5 shifts to stop 3, 3 can pass to 5 or 4 may pivot and pass to 5 cutting back from the corner for the shot. 4, 3 and 1 are in on the follow up usually, while 2 and 5 are alert to take care of defensive needs.

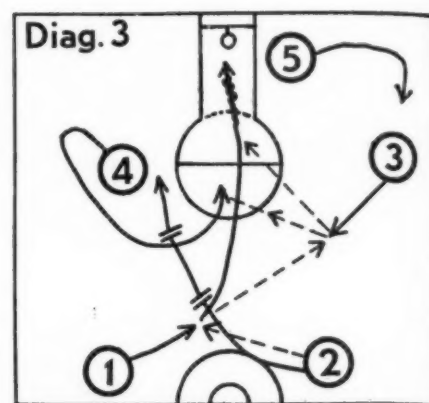
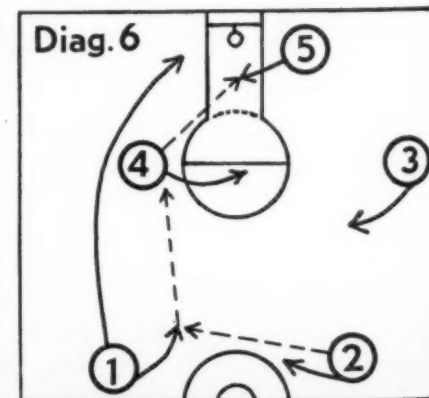


Diagram 3

The principle in Diag. 3 is the same as in the preceding play. Here, however, after passing the ball to 1, 2 moves in front of two teammates, 1 and 4, automatically setting up a natural screen for each. It is essential that 2 travel at top speed after making the pass in order that 1 will be able to make the second pass behind him to 3 and cut around the screen at the time the defense is most apt to be confused.

It will be noted that 3, who angles out fast to receive the pass, has a choice of passing to 1 driving down the middle or to wait and pass to 4. When correctly timed 4 will trail 1 into the basket area by about fifteen feet. Unless he tries to crowd in too close after 1, the trailer is almost always wide open. By experimenting a little 4 will discover just how far to swing toward the outside before cutting back around the screen. This use of a trailer on a play has great possibilities.

If, after receiving the ball, either 1 or 4 finds his path to the basket blocked by X5, he should stop and leap high in the air as if for a one-hand push shot and then, while at the top of his jump, flip the ball quickly to 5 poised in the corner for a set shot. Both 1 and 4, likewise, have the possibility of pivoting and passing to 2 driving in from the left after the double screen. Although it takes an unusual amount of skill to accomplish, 1, instead of shooting at the



height of his jump, may also pass back over his head to trailer 4.

A brief study of the diagram will show that if the defense stops both 1 and 4 coming down the middle, 3 can easily convert the play into a variation similar to that shown in Diag. 1 by pivoting to the outside, passing to 5 coming up the side of the floor, and going around the outside of 5 on a cut for the basket. The passing in this case will be from 3 to 5 to 4 (or possibly to 1 if he can get position on his opponent under the basket) to 3 for the shot.

Diagram 4 and 5

Diags. 4 and 5 illustrate a very simple maneuver that requires a good dribbler in each case. In Diag. 4, 1 apparently tries to dribble around 4 for a close-in shot, and if he is a clever dribbler with a change of pace, he is sometimes able to accomplish this. Normally, however, he tries to get his opponent to go with him towards the sideline before pivoting abruptly to bounce pass to 4 who has turned to face the ball. 4 returns the ball immediately to 1 who dribbles in for the shot.

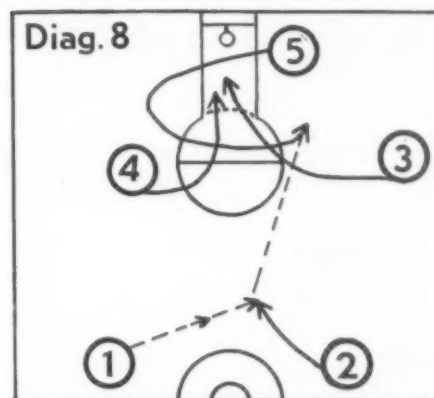
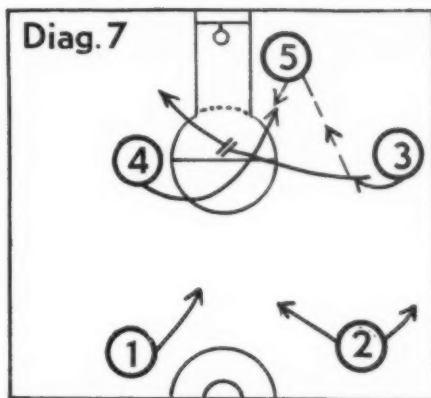
Diag. 5 shows 2 executing the same maneuver with a slight variation. If, after receiving return pass from 4, he is still closely guarded, he may draw his opponent to the edge of the free-throw circle, pivot, and flip the ball to 3 who has been working up the sideline waiting for an opportunity to help out.

Diagram 6

Diag. 6 shows a very effective play quite similar to the one outlined in the first diagram but making use of 5's strong scoring position under the basket. The one essential is 5's ability to get position on his opponent at the right time to receive a pass from 4. He should also be able to pivot and shoot in either direction. If he can lay the ball up accurately with his left hand, he is invaluable. 4 should be taught how to make a back-hand spot-pass. 2 starts the play by shooting a pass over to 1. The latter whips the ball to 4 and follows his pass on the outside. 4 passes to 5 for a quick shot at the basket. If 1 has successfully run his man into 4, then either 4 or 5 may slip him a return pass.

Diagram 7

Diag. 7 indicates the strength of 3's position as a feeder for both 5 and 4. When the ball can be passed to 3, the defense is always in hot water. This is particularly true if 3 is fairly good on set shots about twenty-five feet from the basket. As shown in this



diagram, 3 may pass directly to 5 for the shot or he may pass to 5 and set up a screen for 4 who receives a short pass from 5 for a set or one-hand push shot a few feet from the basket.

3 may also pass to 4 with 5 coming out to set up a screen for 3 to go in around the outside for a return pass from 4. Other possibilities, such as 3 cutting around 4 in the free-throw circle to get a shot on the left side of the basket after a passing combination of 3 to 4 to 5 to 3, are possible.

Diagram 8

Another possibility for 5 is shown in Diag. 8. Both 3 and 4 come in slowly calling for the ball. 5 crosses under the basket and then swings back sharply behind the double screen for the pass from 2 and a set or one-hand push shot. 3 and 4 are in ideal position for rebound work.

Diagram 9

The double pivot-post set-up lends itself admirably to an unusually effective out-of-bounds play under the basket (Diag. 9). It is 3's duty always in the offensive half of the court to pass the ball in from out-of-bounds. 5 and 4 face the ball in their usual double pivot-post positions. As a "breaking" signal 3 bounces the ball on the floor out-of-bounds. 5 immediately backs into the middle of the free-throw lane in order to create a temporary screen for 4 who has pivoted away from the basket on his

right foot and is now dashing in for the set-up. 5 hesitates for the screen and then comes in on the left side for a pass in case his opponent has shifted to stop 4. If the area under the basket remains congested 3 passes over the heads of the players to 1, who has been freed by 2's screen, for a set-shot. 3 comes back into the court quickly on the open side.

Diagram 10

Against an ordinary 3-2 zone defense (Diag. 10) the back pivot man, 5, moves over to the left side of the floor parallel to 3. By rapid passing (and against a zone defense it should be remembered that the ball must be kept moving while the offensive players maintain their positions until the right moment for a break occurs) the ball comes into the possession of 4 behind the three men in the front line of the defense. The situation then becomes three offensive players against two defensive men. One of the men on defense must stop 4 and thereby either 5 or 3 is left unguarded.

Note that 4 swings into the free-throw circle the instant the ball reaches him. 5 and 3 must not cut in too soon. The ball may be worked into 4 from either side of the floor, or it may be passed directly to him from 1 or 2. Constant practice against a zone is necessary in order for the players to accustom themselves to the rapid-fire passing and the delayed cutting.



A DEFENSE OF THE ZONE DEFENSE

By Ellery R. Purdy

One of the most attractive features of the five-man defense is its invulnerability to block or screen plays

Ellery R. Purdy of Rutland, Vt., High School, who has played and coached basketball for over 20 years, believes the zone is far superior to the man-to-man as an all-round defense and has always used it in his coaching. On page 8 Preston Beaver takes a stand on the opposite side of the fence.

SYSTEMS of defensive basketball, like boom times and depressions, move in cycles. The history of the game, especially in the last 20 years, has been the story of the alternate rise and fall of the man-to-man and the zone defense. Ten years ago the zone was in the ascendancy, but the stall brought about its

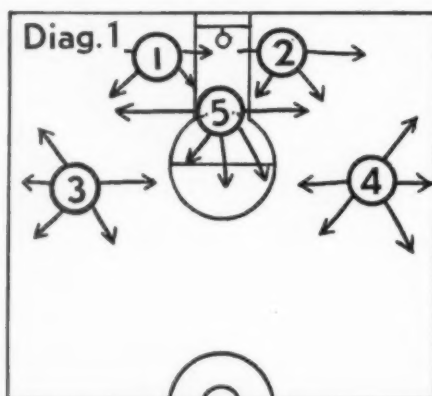
team forced to cross into the offensive half of the court in ten seconds, the rules makers created a situation which fairly shrieked for some adaptation of a five-man defense.

Probably the most immediate cause for the trend back to the zone defense has been the increasing popularity of block or screen plays. The man-to-man defense is especially vulnerable to this type of offense. In fact it is almost impossible for a man-to-man to stop some legal screen plays if they are executed perfectly.

On the other hand, blocks and

fense lies in the fact that the players are watching the ball rather than an assigned opponent. They will, therefore, intercept many more passes than the man-to-man. This is the major objective of the zone. In the man-to-man the idea is "let them catch the ball and then see what will happen next."

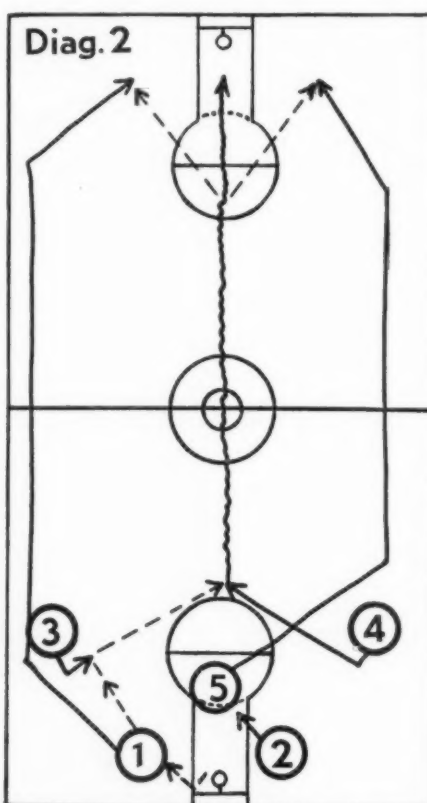
By watching the ball rather than the man the zone player is also able to take longer chances in trying to cut in on a pass. If he fails to intercept and overruns the play it is more than likely that the opponent will be picked up by a defensive player in



downfall and resulted in a general popularity of some form of the man-to-man.

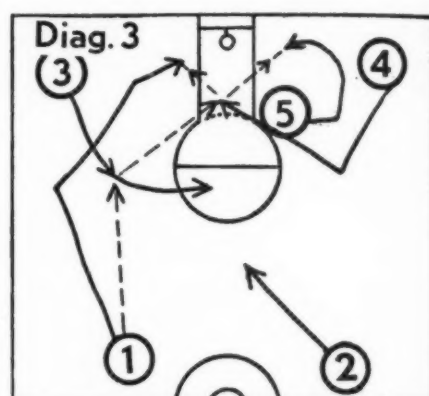
During the past three years, however, the zone has received a new lease on life and is being utilized by many outstanding school and college teams. The rules makers were mainly responsible for this resurgence of the zone by eliminating two of the weakest links in the five-man defense. First they struck a death blow at stalling tactics by incorporating the 10-second rule into the code. At one time a team employing a zone defense were almost forced to abandon the security of the defensive half of the court in order to go out and play the ball against a team stalling in the backcourt. But now the offense must move in to the defense.

The legislators completed the job in 1935-36. When they imposed a 3-second restriction on pivot play in the free-throw lane, with or without the ball, the offense lost one of its most potent weapons to riddle a zone defense. This no-parking ordinance relieved the pressure on the defensive guards in a very vital area. With the center of the floor protected literally by the rules book and the attacking



screens seldom work with any degree of effectiveness or consistency against a zone because the defensive players play the ball rather than the man. This fact is emphasized on out-of-bounds plays, which are based invariably on some variation of a screen. Fortunately for most coaches and teams employing the man-to-man defense, few of their opponents ever develop the full potentialities of the screen on out-of-bounds balls. The zone-coached team does not have to depend on the inefficiency of its rivals. The set-up of the zone, by its very nature, nullifies most of the threat from out of bounds.

Another advantage of team de-



some other zone. The possibilities of a switch are not so strong in a man-to-man unless the players are exceptionally well schooled on defense. The defender is also less apt to foul in a zone.

Ideal for fast break

Since the players in a zone defense protect a specific area, are following the ball continuously and usually play in a position facing their own basket, they are not only able to intercept more passes but they are more quickly aware of it when a pass has been intercepted and are in better position to break fast for a score. The defensive player recovering the ball, either by interception or rebound, does not have to hesitate in seeking an outlet for his first pass or dribble while he looks for a possible receiver. He knows the exact location of his teammates and where to pass, since the defensive zones immediately become offensive zones. This greater adaptability of the zone defense to the fast break is another reason for its recent rejuvenation.

However, just because the game has speeded up tremendously since the center jump was taken out of the

rules, this does not necessarily imply that the game is more haphazard. Set plays for a fast-breaking attack can more readily be planned from the zone defense because the coach always knows the relative positions of the players.

It is simple to synchronize the immediate or fast-breaking attack with the delayed offense. The same set plays can be employed for both, originating from a formation based upon the defensive zone positions. This is illustrated in the accompanying diagrams.

Diag. 1 outlines the popular 2-1-2 zone defense. In these zones the players are ideally located to start any type of offensive maneuvers once they gain possession. The center usually helps the guards with the rebounding. **Diag. 2** shows a fast-break play from this 2-1-2 set-up. The guard recovering the rebound passes out to the forward waiting in his zone, then cuts behind the forward and to the outside. The center breaks away from the forward receiving the pass, and sets up a moving screen for the other forward who drives in to receive the second pass. He can then dribble in to the basket, pass to the guard or the center, or pivot and pass back to the trailing guard. This latter option automatically starts a delayed offensive drive.

Front men break fast

As a general rule the front line men in a zone break fast immediately after their team gains possession and look for a long pass from the rebounder or for the secondary pass if the rebounder has already released the ball. This is the most familiar course of the fast break and one that is becoming increasingly difficult to work. Basketball men have seen so much of it lately that they are all keeping two or three men back to protect the rear court when possession is lost. It then becomes necessary for the team just put on offense to fall back on some other type of maneuver in order to work a fast break. **Diag. 2**, with two men sneaking down the sidelines, may occasionally throw a man into the clear.

Diag. 3 shows how the same basic play can be worked from a slow break. Many variations of this play are possible from the same formation. The danger lies in experimenting with too many variations and not perfecting a few.

There are many other advantages to the zone type of defensive play that have been described in detail by "Phog" Allen, Craig Ruby and other authorities. Some of these follow:

1. The zone is essentially a team defense and does not overload any

man with too much defensive responsibility. This can happen in a man-to-man where one player is forced to guard the opponents' most dangerous man for the entire game.

2. A player who has not or cannot master the fundamentals of individual defense can be relegated to a less important zone, usually in the front line, where he is supported by a second and sometimes a third line of defense.

3. The zone defense protects the area under the basket from which the highest percentage of shots are usually converted. In order to create an air-tight center, the zone may have to sacrifice defensive strength against long range or corner and side shooting, but the percentage of conversions from these spots is far below that of under-basket shooting.

4. It is easy to adjust the zone to confuse the defense, changing from a 3-2 to a 2-1-2 or to a 2-3, 1-2-2 or 2-2-1 to meet any particular style of attack. However, a mastery of one or two types is usually enough, for the zone is notorious for its failure to yield to preconceived set plays. This is one of the reasons why so many coaches hate to see the other fellow use it.

5. A legitimate objection to this form of defense is the argument that it can be used to take advantage of irregularities of the playing court, particularly by a home team. With a narrow court and a low ceiling, even a mediocre zone defies penetration.

6. The zone defense does not exhaust the players as quickly as does a man-to-man defense. This is an important consideration for high school men. When such a strenuous indoor game as basketball is played in an overheated building, any means to take some of the physical strain off the players is worthwhile considering. In a zone the defenders have to cover only a limited area and do not have to chase another player all over the front court, consuming energy which they should conserve for offensive drives. This is a major factor in tournament play where the condition of the teams in the later rounds is often the deciding factor.

Turnabout Screen

No. 4 starts the play by feinting slightly to the left to draw his man over, and then shoots a bounce pass to teammate 7 coming out of the corner. After the pass 4 takes a step to his left and 7 starts dribbling up to the front of the free-throw circle. While his teammate is still dribbling, 4 pulls his guard to the right and sets him up for the ensuing screen play. 7 comes up to a point about three feet behind 4's guard, stops dribbling and turns to face the basket. As soon as he stops, 4 changes direction and breaks sharply around 7 to the basket. While 7's guard futilely waves at the pass, No. 6 is run smack into 7 and 4 is open for a scoring pass.



ATHLETIC AND NON-ATHLETIC INJURY SURVEY

By Charlie H. Foster

Nebraska study shows that athletic injuries are more numerous but less severe than non-athletic injuries

Charlie H. Foster, superintendent and athletic coach at the Ansley, Neb., High School, gathered the material for this study—a comparison of injuries sustained by athletes and non-athletes in typical secondary schools—for his thesis for the degree of Master of Arts at the University of Denver.

EARLY in the spring of 1937 the writer discussed with O. L. Webb, secretary of the Nebraska High School Activities Assn., the possibilities of a study comparing the incidence and type of injuries between the athletic and non-athletic groups. The Association agreed to sponsor the survey and questionnaires were circulated to 227 state superintendents. The study was confined to the high schools that had an average enrollment of 75 to 300 students. The larger schools were not included because it was thought that the superintendents or principals of such schools would not be informed of all the injuries sustained by non-athletic students; while schools with enrollments under 75 do not compete in enough forms of competitive athletics to make a fair comparison.

Of the 227 questionnaires which were distributed, 167 were returned. Two reports were filled out improperly and therefore could not be used in the final tabulation. This left 165 reports to be considered, or a return of about 73 percent. Table 1 catalogues the miscellaneous data and Table 2 presents the data pertaining to the number and type of injuries sustained by high school boys.

Interpretation of data

The number of boys enrolled in the lower grades of the 165 schools totaled 10,035. Of this number 3,756 played football and an average of 9.5 percent were injured in some manner. This would indicate that the risk of injury was about 10 out of every 100 boys. In basketball 4,628 boys competed and the percent injured was 3.3, a risk of only 3 in 100. The boys in the non-athletic group during the football and basketball seasons numbered 5,433, 3.9 percent of whom were injured or about 4 out of 100. Taking the athletic group as a whole (football and basketball), 8,384 boys participated and 6.1 percent were injured. It seems, then, that the risk in the athletic group is greater by about 2 injuries in a given group of 100 boys.

The age of the boy could be a determining factor as to the number and type of injuries but age was not considered in this study. However, most boys are advised not to play football until they are about 15 years of age. The Metropolitan Life Insurance Company published statistics which showed that 12 to 15 years was the dangerous age for accidents to children, because

MISCELLANEOUS DATA TABULATED FROM THE 165 QUESTIONNAIRES

Table 1

Number of boys in high schools (Grades 9-12)	10,035
Number of boys out for football	3,756
Number of injuries in football	359
Percent of boys injured in football	9.5
Number of boys out for basketball	4,628
Number of injuries in basketball	154
Percent of boys injured in basketball	3.3
Average number of boys in non-athletic group during football and basketball seasons	5,433
Number of injuries in non-athletic group during football and basketball seasons	209
Percent of boys injured in non-athletic group during football and basketball seasons	3.9
Number of boys out for football and basketball	8,384
Number of injuries in football and basketball	513
Percent of boys injured in football and basketball	6.1

they are careless during this period and their bodies are not well developed.¹

Many injuries in football occur because of the lack of proper equipment. M. A. Stevens² declared that the school should not be too economical in purchasing equipment because of the hazardous implications of inferior equipment. In the May, 1938, *Scholastic Coach* an illustrated article, "Complete Equipment for the Six-Man Football Player," appeared which showed how it is possible to obtain equipment that furnishes the maximum protection at a minimum cost.

In making a comparison of the types of injuries received in football, basketball and the non-athletic (boys) group, the survey indicated that the most serious football injuries were broken bones, of which there were 86 reported, followed by sprained ankles, 70, and knee injuries, 38. In basketball the most serious injuries were sprained ankles (54). The other injuries were about evenly divided. In the non-athletic group the most serious injuries reported were two deaths, one by automobile and the other by gun. Other serious injuries included the loss of a hand in a corn grinder and the severance of several fingers in a meat cutter. There were 44 sprained ankles, 42 broken bones and 25 serious cuts reported in the non-athletic group.

Although the greatest number of injuries were found in the athletic group the most serious injuries were reported in the non-athletic group. Most of the serious injuries were due

to auto accidents. The National Safety Council reported in 1932 that more boys and girls (ages 5 to 14 years) lost their lives in auto accidents than died of disease.

Many serious automobile accidents are caused by sheer carelessness or a lack of knowledge concerning the mechanics of driving. The many driving courses that are now being offered in our public schools and the introduction of safety education into the curriculum will, in a few years, show results.

A. D. Battey³ reported that 60 percent of injuries to school children in 1936 occurred in school buildings and 17 percent on school grounds. This fact gives evidence that there are many hazards in school buildings and grounds and that a removal of these hazards would help materially in the prevention of accidents.

No injuries reported

It is interesting to note that 12 schools reported no injuries in football, 81 schools sent in a clean bill of goods for basketball injuries and 97 reported no injuries in the non-athletic group. It is evident that some schools have more injuries than others. There are several factors that contribute to this. Some coaches have acquired a working knowledge of first aid, bandaging and physiotherapy through a health or physical education minor or major in college; others have had little or no training in the prevention and treatment of athletic injuries. In training men to be coaches, our colleges cannot make doctors out of them. It is necessary, therefore, for all

¹ Statistical Bulletin: "Eleven the Safest Age," *Hygeia*, 1937, pp. 382-383.

² M. A. Stevens, "Football Injuries—Their Cause and Prevention," *The Athletic Journal*, February, 1934, p. 12.

³ A. D. Battey, "Student Accidents," *Safety Education*, 1936.

schools to have a doctor on hand to examine all boys at the start of the athletic season and at any time when sickness or injury occurs. The Nebraska High School Activities Assn. requires all boys competing in athletics to be examined each semester of competition. This has had a tendency to cut down injuries, but in the smaller schools doctors are not always available.

Since 73 percent of the superintendents answered the questionnaire, the writer believes the data obtained is typical of the average Nebraska town of from 300 to 400 population, representing the majority of the boys in the state who participate in athletics. Two conclusions are obvious: (1) the injuries suffered by athletes in football and basketball were greater in number, but of a less severe nature, than those in the non-athletic group by about 2 injuries in every 100; (2) football players run a greater risk of injury than basketball players or those of the non-athletic group. From other state-wide surveys which have been made from time to time, this latter point holds true in other states as well.

In 1933 N. P. Nielson⁴ completed a study of 373 schools concerning football injuries in the state of California. This survey covered 220,261 students.

two-year period, 1929-31 revealed some interesting data.⁵ In 1929, 4,319 boys from 93 schools competing in football reported 504 injuries, an average of 11.4 percent injured. In 1930, 106 schools competing in football reported 549 injuries among 5,456 boys, an average of 10 percent.

The Indiana High School Athletic Assn. made a survey of injuries in 1932.⁶ Of the 5,091 boys who competed in football, 963 (18 percent) were injured. The most common injury reported was a sprain.

During the period from 1935-38 a large drop was noticed in the number and severity of football injuries. H. B. Burns⁷ made a study from Sept. 7, 1936 to Nov. 28, 1936, of 500 boys who played football for 600 practice and game sessions, representing 37,000 individual hours of football. There were only 105 injuries reported and of this number only five were serious. Ninety percent of the injuries were of minor nature. The construction of better football fields has helped reduce the number of cuts, scratches, etc., that were due to bumpy, poorly-kept gridirons.

In 1933 considerable comment was heard concerning football fatalities. Yet, over a period of years, for every million students enrolled in college and high schools only about five die as a

The individual must consider the fact that on any Sunday afternoon in any large city, traffic will provide more serious accidents and deaths than football has produced in the same area over a period of several years.

School accidents

During the past five years there has been a great increase in the number of accidents and injuries in the public schools. According to a study made by A. D. Battey in 1935-36, accidents around the school buildings and grounds showed an increase of 60 percent and 17 percent, respectively.

One of the most complete surveys in this field was made in Minneapolis by N. H. Hegel. Just the injuries within the school or on the school grounds were reported. He found the injury incidence higher in the upper grades.

Of the 48,732 students enrolled in the kindergarten and first six grades, 2,148 were injured in some way. In the seventh and eighth grades, 301 injuries were reported out of a total of 3,327 students. The junior and senior high school records disclosed 2,428 injuries out of 26,720 students. Combining all groups, the statistics showed 78,779 pupils and 4,877 injuries, or one injury for every nineteen students.

In order to lower the ratio of injuries between the athletic and non-athletic groups, the following desirable practices should be stressed in the administration of interscholastic athletic programs.

1. A boy should be at least 15 years old before taking active part in competitive athletics.
2. The physical fitness of a boy should be determined by a licensed medical man.
3. After injury or sickness an athlete should be examined by a doctor before being permitted to participate again in athletics.
4. Coaches should have some knowledge of athletic diets, first aid, bandaging and physiotherapy.
5. Only graduates with majors or minors in health and physical education should be hired as coaches.
6. All football fields should be smooth and free from glass, sticks, rocks, etc., and should be marked with whitening rather than lime.
7. Players should not start any contest until properly warmed up.
8. Only the best of officials should be used in interscholastic games.

High school students, both boys and girls, should have an opportunity in the classroom to learn safety measures. The points to stress in a high school program follow:

1. More organization and teaching of safety education in the grades as well as in high school.
2. Driving courses in high school.
3. Removal of hazards in and about buildings and playgrounds.
4. Cooperation of the schools and the state safety patrol in their program of safety.
5. More definite playground supervision.

THE NUMBER AND KIND OF INJURIES SUSTAINED IN 165 NEBRASKA HIGH SCHOOLS

Table 2

	Football	Basketball	Non-Ath.
1. Sprained ankles	70	54	44
2. Bruises	22	2	6
3. Cuts	5	10	25
4. Broken bones—all kinds	86	8	42
5. Teeth injury	4	6	2
6. Knee injury	38	6	0
7. Nose injury	19	3	3
8. Shoulder injury	11	3	3
9. Leg injury	5	0	4
10. Infections—all kinds	5	1	5
11. Back injury	2	0	4
12. Deaths	0	0	2
13. Burns	0	0	3
14. Eye injury	0	0	4
15. Loss of hand	0	0	1
16. Loss of fingers	0	0	1
17. Unclassified	102	64	67
Total	359	154	209

Of this number 13,559 boys competed in football. There were 3,171 injuries involving 3,003 boys or a percent injured of 22.15. The injuries were classified into divisions, A and B. Class B listed the severe type of injury that would keep a boy out of competition for several days; Class A all other injuries. There were 2,157 injuries in Class A and 1,014 in Class B.

A survey of football injuries in the high schools of Massachusetts over a

result of playing football.⁸ The lives of five boys are too many, but the solution of the problem does not lie in prohibiting normal boys from playing the game or doing away with the sport.

⁵ J. H. Burnett and F. J. A. O'Brien, "A Survey of Injuries in the High Schools of Massachusetts," *Journal of Health and Physical Education*, December, 1935.

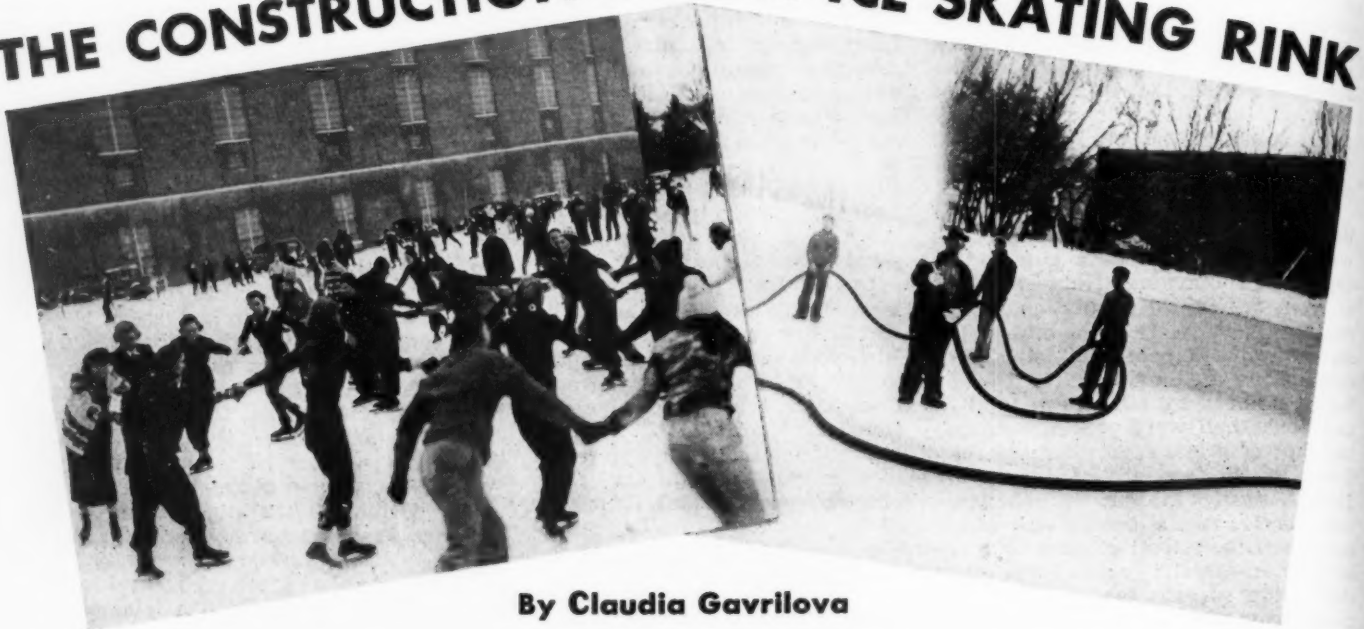
⁶ G. R. McCormack, "Safeguarding the Athlete's Health," *Hygeia*, October, 1933, pp. 904-908.

⁷ H. B. Burns, "Reducing the Number and Severity of Football Injuries," *The Athletic Journal*, December, 1936.

⁸ Augustus Thorndike Jr., *Athletic Injuries, Diagnosis and Treatment*.

⁴ N. P. Nielson, *Research Quarterly*, October, 1933, pp. 78-90.

THE CONSTRUCTION OF AN ICE SKATING RINK



By Claudia Gavrilova

Miss Claudia Gavrilova of Puyallup, Wash., describes the spray method of making an ice rink that has been developed and used successfully at the State College of Washington during the past five years. The Washington rink, formed by coating the baseball field with ice, yet in no way injuring the turf, accommodates as many as 700 skaters a day on weekends, and averages 250 daily during the week. The rink is located right on the campus and is handy for students, faculty and townspeople.

THE popularity of ice skating with students of high school or college age is dependent almost wholly on facilities. Wherever an adequate skating surface has been available the sport has usually flourished. Unfortunately, many schools are not located in the vicinity of a body of water that can form a natural rink during freezing weather. In order to make skating possible, these schools have had to depend on artificial resources.

Various methods have been attempted to create ice ponds large enough to accommodate a large number of skaters. A satisfactory rink has often been obtained by merely flooding a smooth patch of ground. But this method is productive only as long as the ground is just right. Free flooding requires a basin-shaped area or ground which can be banked well around the edge. It has been found difficult in this process to distribute the ice evenly and to obtain a smooth surface.

The State College of Washington has been building ice skating rinks with considerable success during the past five years, with a method which might be called "spraying the ice." This method was developed by Elmer Sever, caretaker of the Associated Students' athletic fields at Pull-

man, and can be used on a backyard, on a vacant lot or on an area of two to three acres or more. All that is needed is fairly level ground and water under pressure.

Mr. Sever says that "Nothing can be done without at least an inch of snow and there should be from three to six inches on the ground. The procedure in forming the skating rink is as follows: Pack down the snow firmly. This will give a hard base so that the hose can be carried over the area without breaking up the snow. A good method of packing the snow is to do it with a truck pulling a flat drag or clod packer the width of the truck. It is a mistake to pour any water on the snow before it is well packed."

Two-inch hose best

For a large area a two-inch hose is best because a smaller hose will make the work too slow. A small hose can be used on a small tract. At the start, with a two-inch hose, use a nozzle which tapers to a three-quarter inch outlet. The water should be shot high into the air so that it will fall similar to rain. If the water is put on too heavily it will melt the snow and ruin the base. With the water distributed in drop form, the snow is saturated as much as possible without melting the snow. Nothing further should be done until the drenched snow freezes firmly.

The nozzle must be changed before applying more water. A nozzle having a spray outlet, such as a perforated knob, is best. Forming a sort of mist, the water is sprayed on the base, starting at one end and progressing the length of the rink. This process is repeated six or eight

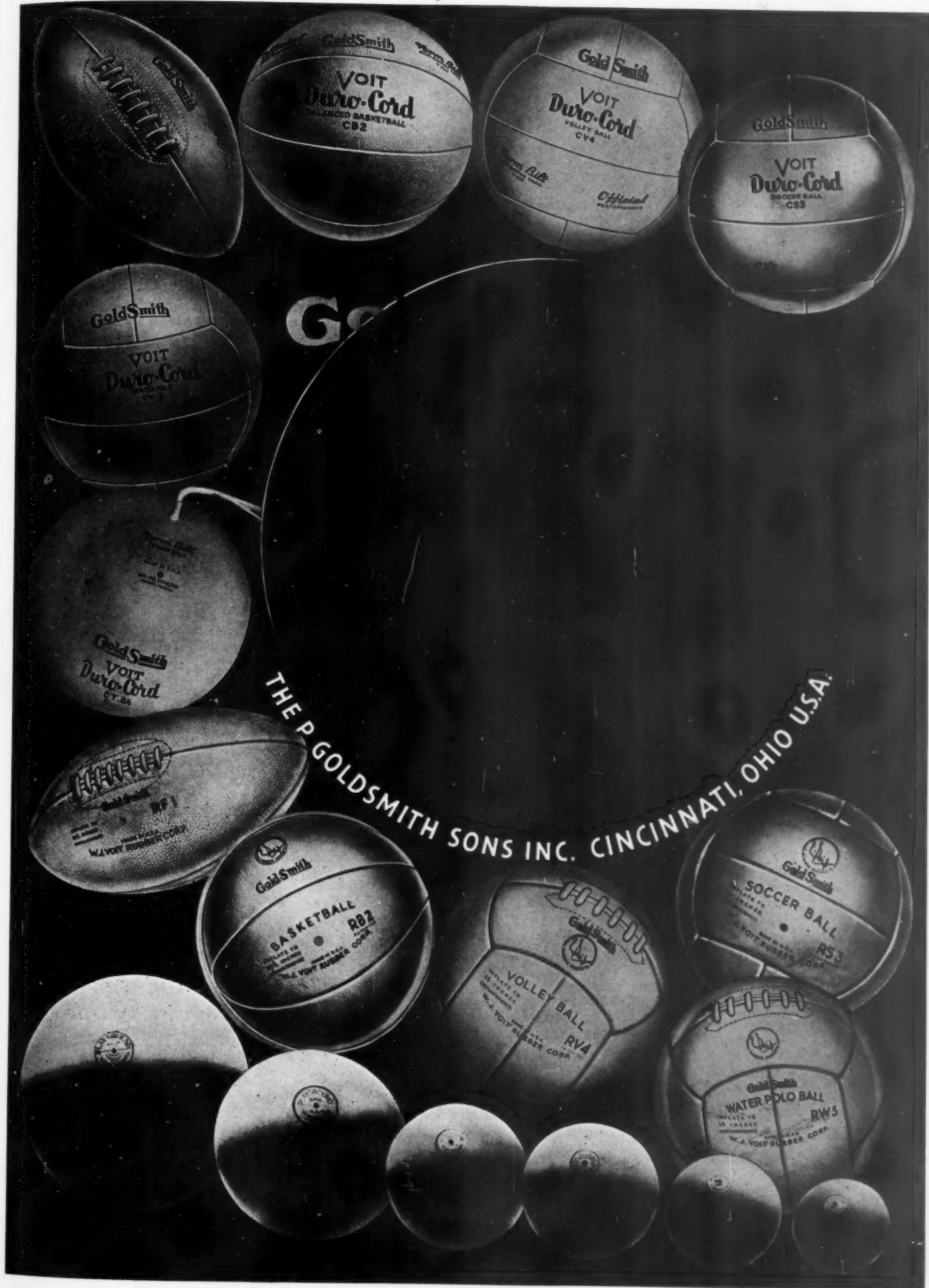
times, adding about an eighth of an inch of ice each time. If the area is large and the weather fairly cold, the spraying process may be continued until there is a suitable thickness for skating. If the area is small it will be necessary to wait between coats for the water to freeze.

The rink may be resurfaced whenever desired by spraying additional coats of ice upon it. The upkeep depends on the amount of usage and the weather conditions but care should be taken to remove all snow and chipped ice before applying water.

If possible, the rink should be built where it can be protected from the direct mid-day and afternoon sun. If sheltered on the south and west by trees or buildings, the ice will stay in much better condition. Under the full rays of the sun the surface becomes soft, cuts up easily, and is rough after refreezing.

Condition of ice

W.S.C. has found that the ice is in best condition for skating when the temperature is between 10 degrees above and 24 degrees below zero. However, last winter their rink was used during weather which varied from 32 degrees above zero to 32 degrees below. The rink is 160 feet by 330 feet, and is well protected from the sun with the stadium grandstand and tall trees on the south and the large field house on the west. The ground slopes about three feet from one end to the other and would probably provide a little better surface if it was perfectly level. A rotary brush can be used to remove the snow and fine chips from the ice surface.





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From the States

This department includes correspondence from state high school coaches' associations and state high school athletic associations. All associations are invited to participate.

National Federation Notes

State news

VOTING representatives from 27 states will attend the National Interscholastic Football Committee meeting in Chicago on January 6 and 7, in addition to several non-voting members. Football questionnaires are now being circulated in each state where the rules are in use in order to determine sentiment relative to the changes made last year and also to elicit proposals for 1939 rules changes. A summary will be available at the time of the national meeting at which time the 1939 rules will be made up.

Pennsylvania and Kentucky have recently begun publication of attractive bulletins. The one from Kentucky is called the *Kentucky High School Athlete* and is edited by R. E. Bridges of Fort Thomas. The publication in Pennsylvania is edited by Edmund Wicht of Harrisburg. It is called *The P'Athlete* and is in the form of a four-page newspaper. The *Kansas Athlete* has been enlarged and improved.

Probably the most progress made during the last couple of years in connection with a state athletic association bulletin has been made by Connecticut. Prior to last year the state issued a mimeographed bulletin. It is now printed and laid out in a very attractive manner. It is edited by executive-secretary Walter B. Spencer.

Early reports indicate that the molded-type basketball will almost entirely replace the sewed type in the central and western states. The following states have already adopted the molded type for all state-sponsored tournaments: Alabama, Colorado, Illinois, Iowa, Kansas, Minnesota, Montana, North Dakota, South Dakota, Wisconsin and Wyoming. Several of these states used this type ball last year and found them satisfactory. They have been found to be much more durable, have a more consistent reaction and a slightly more lively reaction promotes a faster game and less confusion in the vicinity of the basket.

The annual meeting of the National Federation will be held at the Athletic Club, Cleveland, Ohio, during the meeting of the National Educational Association on Monday, February 27.

Floyd Rowe, athletic director of Cleveland, Ohio, is making an extensive study of the possibilities of having players acknowledge their own fouls without being reminded by the whistle of the official. It is his belief that it should be ultimately possible for informal groups to play the game without an official.

The Federation members of the Na-

tional Basketball Committee are collecting statistics relative to the variation in lighting of basketball courts in high schools in various sections of the country. Through this investigation it is hoped that some definite lighting standards can be set up that will eliminate any variations.

Wisconsin

Monster clinic

CLOSE to 1000 coaches attended the afternoon and evening sessions of the annual fall clinic at Shorewood High School early last month, held in conjunction with the state teachers convention.

The afternoon program in the gymnasium consisted of the following lectures: Tennis by Ivan Williams of Neenah, Archery by Larry Whiffen of Milwaukee, Badminton by Herbert Fisher of West Allis, Golf by Ole Gunderson of Shorewood, and Swimming by Peter Colosimo of Shorewood.

In the evening the coaches gathered in the auditorium for lectures and moving pictures. R. T. Cook of Williams Bay spoke on Six-Man Football and Conrad M. Jennings, track coach at Marquette University, lectured on his specialty. Lynn Waldorf of Northwestern then took over and gave a running comment on moving pictures of the Minnesota-Northwestern game. His talk was very interesting and educational. A basketball film, with sound, concluded the program.

About 400 coaches attended the Association's week-end clinic at Madison on the eve of the Wisconsin-Minnesota game (Nov. 20). Harry Stuldreher gave an interesting lecture on football and illustrated his talk with moving pictures. On the morning of the game Coach Foster of the University of Wisconsin lectured on basketball and ran his team through some plays on the basketball court.

L. A. ERICKSON,
Wisconsin H. S. Coaches Assn.,
Shorewood, Wis.

Missouri

Election of officers

OFFICERS for the coming year will be elected at the annual meeting of the Athletic Coaches Assn. on Saturday, December 17, in Rothwell Gymnasium of the University of Missouri in Columbia. At this time the Association will also appoint the committees to handle the football clinic next year, and discuss the advisability of extending the clinic to a full week by adding basketball and track to the program.

The coaches will hold their annual basketball clinic and rules interpretation meeting starting at 10:00 A.M. under the direction of President Bill Lyons of Marshall, N. Clyde Ficklin of

(Continued on page 34)

WHAT WINS GAMES

?

*Read HOWARD HOBSON'S answer
—an important message to athletes*

- Ask any student what wins games—or what makes a great athlete—and most likely his answer will be "skill." Yet you, like all coaches, know that skill is wasted effort without condition.

We want to help you drive home this important fact to your students. We are presenting you with a new poster that will help you do it—a poster that carries an inspiring message to all athletes by Howard Hobson, Head Basketball Coach of the University of Oregon.

HOW TO USE THIS POSTER

This poster, strikingly printed in two colors, appears on the next two pages. We have placed it here so that you can be certain to have a copy. Remember, as an athletic director and coach, you have a greater opportunity to influence the development of the students in your school than most other members of the faculty. This poster offers you a chance to make that influence more effective than ever before.

The poster can be easily removed without in any way damaging your copy of Scholastic Coach. With a knife, or letter opener, just fold back the two staples in the center spread and lift out the poster. Then mount it on your bulletin board where its message can be read not only by the members of athletic squads, but also by all other students in your school.

If you wish additional posters, we will gladly send you any number up to five from the limited supply we now have. If for some special reason you desire a larger quantity we will endeavor to fill your order. Write direct to this office or use the Master coupon on the last page of this magazine.

ALCOHOL EDUCATION, 1730 CHICAGO AVENUE, EVANSTON, ILL.

Another Poster on Rule No. 1 for Athletes

wins in basketball



Says

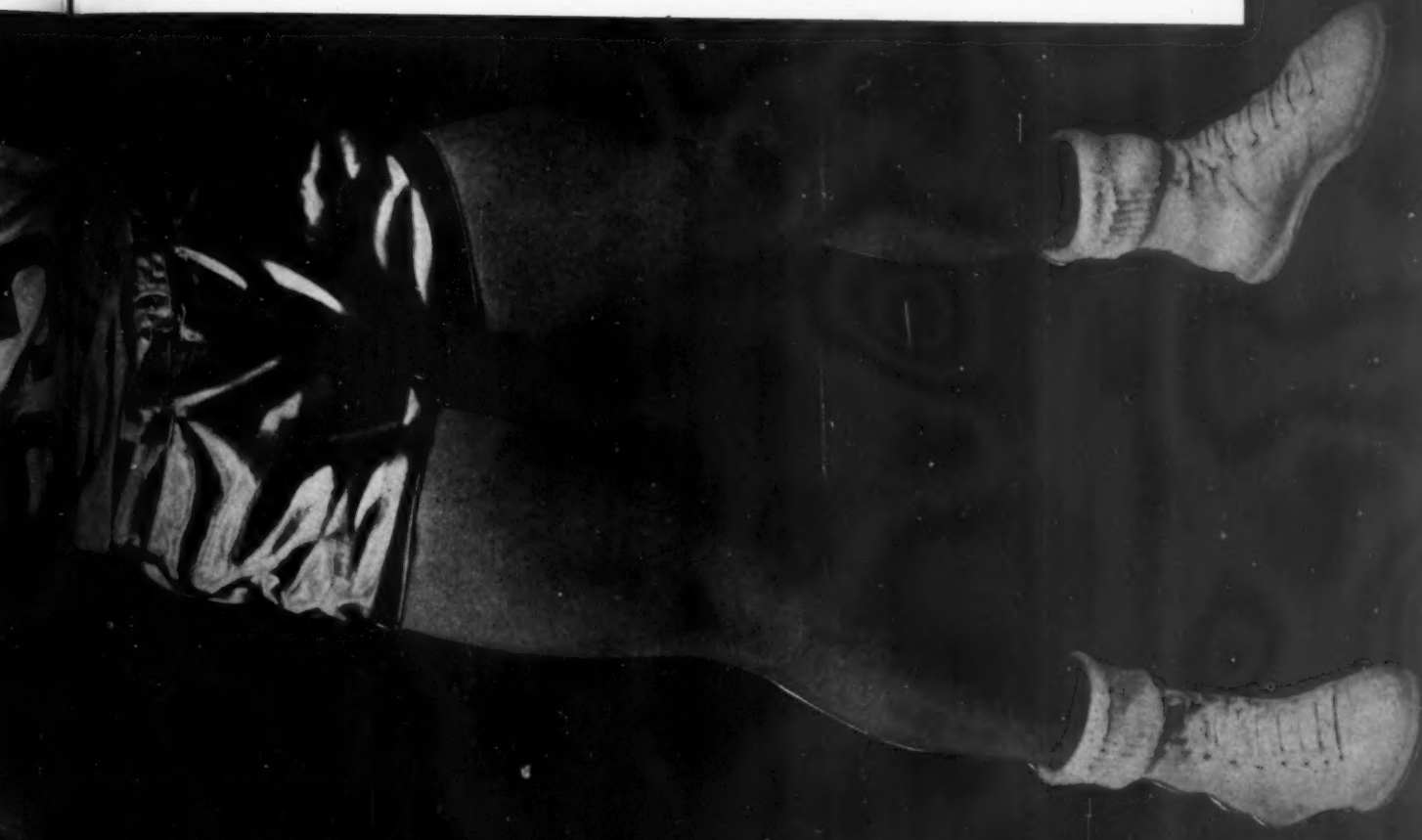
HOWARD HOBSON

Basketball Coach, University of Oregon

"The use of alcohol first is undesirable for any athlete and physical standpoint. Those engaging in a game

The use of alcohol first is undesirable for any athlete and physical standpoint. Those engaging in a game like basketball, however, not only impair their efficiency but may endanger their very lives by its use. Basketball players must be in top physical condition before playing this strenuous game. Playing with a poison like alcohol in the system causes an over-taxing of the organs which may have serious results. It has always been my Number One training rule to prohibit the use of alcohol."

Howard Hobson



THE EFFECT OF ALCOHOL ON *Speed*

Facts in Alcohol Education for Coaches and Physical Education Directors

Most people think of speed as fast action of the muscles. Actually, however, speed depends on perfect coordination between mind and muscle. Fast thinking must precede fast acting.

If anything interferes with this mind-and-muscle coordination, an athlete cannot react quickly to a situation. Even though he may be finely endowed physically for any sport requiring speed, his play will be slowed down if his muscles do not react instantly to messages from his brain or sensory nerves.

The greatest enemy of perfect coordination is alcohol. This is because alcohol interferes with messages governing the two kinds of movements—voluntary and reflex.

Voluntary movements are those which are deliberately made, such as grasping a ball, swinging a bat, etc. The accuracy and speed of these movements depend on accurate passage of messages within the brain and from one nerve to another. Alcohol greatly slows down these messages. As a result, thoughts and feelings are not received so

quickly and the voluntary movements of the muscles are slow and incomplete.

Reflex movements are even more important in sports, for they govern nearly all quick and accurate muscular activity, and here also the effect of alcohol is disastrous. The simplest example of a reflex movement is the winking of the eye when we feel something is going to touch the eye ball. This is done almost instinctively, without thinking—just as many split second movements must be made in sport.

Reflex movements are caused by messages or signals which come in on sensory nerves and go directly to the motor nerves. The time that passes between the moment something happens that sends a signal in through a sensory nerve, and the response of the muscles, is called "reaction time." Even small amounts of alcohol greatly slow down "reaction time." The muscles as a result, do not respond quickly, and a player who might normally be able to play a hard, fast game, becomes slow, sluggish and awkward.

Girls' Officiating Procedure

By **Wilhelmine Meissner**

Miss Wilhelmine Meissner's article on the technique for the woman official in basketball appeared originally in the *Official Basketball Guide for Women and Girls*, and is reprinted with permission of the publishers—A. S. Barnes and Co. (N. Y.). Miss Meissner is the editor of the *Guide* and a member of the New York Board of Officials.

A THOROUGH knowledge and understanding of the rules of the game are absolutely essential to good officiating. Since the rules are constantly changing, it is necessary for an official to provide herself annually with the rules book and to learn, through discussion and observation, exactly how the new changes are being interpreted. It is of the utmost importance, in this connection, that an official make every effort to attend any interpretive or discussion meeting which may be held by the local rating board in her vicinity or by the state basketball committee.

For the sake of her prestige among the players, as well as for increased maturity of judgment, an official should not be too young. In order to apply for a national rating a candidate must be at least 16 years of age or out of high school. Estimating roughly, eighteen is the earliest age at which a person can start officiating with a fair assurance of success.

Since it is important that she inspire confidence by her appearance and manner, an official should be watchful of her posture, neat in dress and unobtrusively efficient.

Her reaction time must be short. She must see what goes on, draw her conclusions and, if necessary, announce her decision almost simultaneously. This sort of alertness is impossible unless the official is in excellent physical condition and able to keep thoroughly on the job for fifty minutes or perhaps longer. If she goes "wool-gathering" for even a fraction of a second, control of the game may be irretrievably lost. On the other hand, the realization that she must not lose control should not be allowed to result in tension on the part of the official.

As far as possible an official must give to the players the feeling that she is thoroughly friendly to both teams and that her function is to keep the game running smoothly, enforcing the rules without partiality. The game belongs to the players and an official should never commit any act which might make it appear that she was attempting to

"steal the show." A quietly efficient referee with a good sense of humor is far better than a noisy, gesticulating one, who assumes the role of a policeman.

In order to become a good official or to remain one over a period of years, constant practice is an absolute necessity. One has only to give up officiating for a few weeks and then attempt to work a fast game to realize what a disastrous effect a vacation may have on one's ability to referee. Criticism should be sought and accepted gracefully.

Equipment and costume

The equipment of an official should consist of the official basketball guide for the current season, either carried in the blazer pocket or placed on the scorers' table, and a loud, clear-toned whistle ready for instant use. Most officials wear the whistle on a cord or ribbon around the neck.

If a regulation costume is required by the local board she should comply with the rule. Otherwise, she may wear sport clothing, distinct from either team, which will permit freedom of movement, and sneakers or rubber-soled shoes. It is generally agreed that sport clothing is preferred to hockey tunics, gymnasium costumes, shorts, etc.

Arrangements

When accepting an assignment, the official should be sure to get an accurate record of the date, time and place. Telephone conversations and verbal agreements are rarely satisfactory; whenever possible get all information in writing. Other suggestions in regard to arrangements follow:

1. Find out whether you are to officiate alone or with another official, and whether the two-court game is being played.
2. Allow ample time for traveling.
3. If it is necessary to disappoint a team be sure to give at least 24 hours' notice. Upon the manager's request, you may help to secure an official to take your place. Teams should give you the same consideration.
4. Arrive at game 15 to 20 minutes early.
5. Note size of playing court, height of ceiling or overhead apparatus, location of projecting balconies, unprotected radiators or plat-

forms; floor markings, lights, and ventilation. If the ventilation is inadequate, ask to have the windows opened; comfort of players is more important than that of spectators. Find out if there are any local ground rules.

6. Make an effort to meet the coaches, captains and players. Let them feel from the beginning that you wish to be helpful.

7. Rules should be applied without modification. This is a place where officials can help a great deal. If teams tell you that they play the game with modifications in official rules, try to locate the reason for this modification and, if possible, make them see a better reason for adhering to official rules. Remember, you can help more if you suggest than if you dictate.

Preliminaries for game

Referee and Umpire. If there are to be two officials and both, or neither, are rated by the Women's National Officials Rating Committee, find out from the captains if they are willing to have you exchange duties at the end of half and whether they have any choice as to which official starts the game. If one official is rated, and the other is not, the rated official referees the entire game and the unrated official umpires. If you are refereeing, inform the umpire as to the type of decisions in which assistance will be appreciated beyond her official jurisdiction. Ask the umpire to move about the court in such a way as to cover all violations and fouls which you, the referee, cannot see clearly. But in all cases where the referee's view is unobstructed, the umpire should hold her whistle. Have a definite understanding on this before starting to officiate.

If one official blows her whistle and it cannot be heard because spectators are making too much noise, the other official should assist by blowing hers, thus helping to stop play. The ball should then be returned to where it was when the first whistle sounded.

Captains and Teams. Introduce the captains. Let the visiting team make the choice of baskets, or of receiving the ball first in the center. If the visiting team chooses the basket, the home team has the choice of deciding which team is to receive the

(Concluded on page 24)

Muscles in Action

An authoritative chart showing the behavior of muscles during exercise



10 drawings of muscles used in various sports with names clearly printed on each drawing. Printed in two colors on cardboard—size 22x16

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Muscle pain and stiffness are caused by fatigue acids which settle in the muscle fibers after unusual exercise. Absorbine Jr. brings quick relief by speeding the blood through the muscles—and the blood promptly washes away these harmful acids! Rub on right after exercise and 2 or 3 times during the day.

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ABSORBINE Jr.

Officiating Procedure

(Continued from page 23)

ball first in the center. The visiting team may supply either the official scorer or the timer and the home team selects the other. If there is no new ball and each team has a ball, find out which ball is to be used for the game. If both balls are satisfactory, and they wish to use both, let the visiting team decide in which half they wish to use their own ball, and allow each team to use its opponents' ball for practice before the game starts.

Ask the Captains if there are any questions they would like to ask before the game starts. If necessary assemble the two teams and explain boundary rules and answer any questions. This should take but a minute or two. Officials should assume that the teams know the rules, so there is no necessity for a long discussion. Tell them how you will indicate personal and technical fouls and that you will blow your whistle only to make decisions on fouls, violations, or errors in awarding ball.

Inform them of the fact that the whistle will not blow on out-of-bounds balls unless the wrong team tries to put the ball in play. This short meeting with the teams can do much to make the teams appreciate your willingness to help.

Scorekeepers. Make sure that the scorers' and timers' table is near the sideline close to the center of the court, at least three feet back from it. The scorers should follow the suggested method of scoring as indicated in the official guide. Only one book should be used during playing time and must be left on the scorers' table throughout the game. The official scorer keeps the written record; the other scorer assists her and copies the contents of the official book at quarter-time, half-time, and at the end of the game. This eliminates possible disagreement as to score.

Describe the signal system that you will employ to designate fouls, violations, etc: (a) Upraised hand—a goal; (b) Tagging offending player—technical foul; (c) Tagging offending player with hand raised over head—personal foul; (d) Moving both arms vertically in front of body—jump ball; (e) Moving forearm horizontally—no goal.

The scorekeepers should be instructed to blow their whistle for warnings, disqualifications, etc., only when the ball is dead, i. e., on tie-balls, out-of-bounds balls, etc. Scorers should not blow whistle when ball is in play or when a player is on the free-throw line ready to take a

free throw. Whenever possible scorers should communicate with the referee through the umpire; this can often be done by calling to her as she passes the scorers' table, thus eliminating whistle blowing by the scorers.

Stress the importance of warning players after three personal or four technical or a combination of any four fouls (to be done through the umpire.) The scorers should keep a record of the fouls charged to the position of captain, separate from fouls charged to the captain as a player. Written record of time-outs charged to each team should also be kept and the umpire notified when a team has taken the two time-outs permitted without penalty. It is also the duty of the scorers to keep track of substitutes and notify the umpire if a player is re-entering the game more than once.

Make certain that the scorers are equipped with a horn or a whistle different in tone from that of any other official.

Timekeepers. The timekeepers should use one stopwatch to record actual playing time and another to record the various time-outs during the game. They should warn teams after seven minutes are up at half time so that they will be on the floor ready to start the second half promptly. It is their duty to keep track of the length of time-out for substitution and to notify the umpire if time has been exceeded.

If a team asks for time-out near the end of the first, second or third quarter and there is less than one minute to play, the timekeeper informs the referee of the situation, who, in turn, should announce the end of the quarter. The time-out is not charged to either team, and the timers are instructed to add the fraction of the minute to the next quarter.

Card Officials. Someone from each team should be especially appointed to keep track of the awarding of the ball. The home team supplies the "official" card official. She turns the card as soon as the ball has been awarded in the center so that the name of the team to receive the ball next is visible to the players and the referee. The visiting team supplies the other Card Official, who keeps a written record of the awarding of the ball, to insure accuracy.

In the next issue of Scholastic Coach Miss Meissner will discuss the technique of the official during the actual game.

Girls A. A. Notes

Illinois

Health instruction plan

PHYSICAL education programs can easily incorporate a health instruction plan when the latter is not a subject in itself, or when a subject such as biology is not required of all students. At Rock Island High School, the health bulletin idea is carried out, encouraging the formation of sound health habits as well as offering information in health problems.

Every two weeks an attractive poster dealing with some health subject is placed on the bulletin board in the girls' locker room. Included on this poster are specific facts about the subject, information taken from pamphlets, newspaper or magazine articles, and pictures directly relating to the points discussed. For example, the subject may be "Milk as a Food." The typed material is mounted on a sheet of colored paper, and around it are arranged pamphlets which may have been collected from dairies and life insurance companies, articles taken from magazines or newspapers, and probably a picture or poster such as issued by the National Dairy Council.

The girls are encouraged to read the bulletin, and at the end of the two-week period they write a statement indicating what they learned from reading the article, how it impressed them and in what way it helped them to improve their own health habits. This plan is used for freshmen and new students.

For upperclassmen, the health outline plan is used. At the beginning of each semester a series of 40 to 50 health subjects is posted which the girls can use for their outlines. After selecting a subject which appeals to them, the girls use four sources (which also have been posted) for their reference material, and turn in at the end of the semester an outline, four pages long, on that subject.

The statements about the health bulletins by the freshmen and new girls, and the two outlines a year by the upper classmen are graded and recorded for each girl. Through these plans we feel that sound practices in health habits are encouraged and more healthful experiences are stimulated.

VIRGINIA BODE
Rock Island H. S., Ill.

Connecticut

Play-day movement

A YEAR ago the Connecticut Inter-scholastic Athletic Conference appointed a committee of three to look into the development of athletic activities for girls in this state.

The committee, fully aware of the direct advantages gained by the series of play days which had already been held in several of the high schools of Connecticut and their indirect educa-

(Concluded on page 39)

RIDDELL MOLDED BASKETBALL



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BASKETBALL SHOES



THE "56"

No. 56—Black leather upper, black sole. Goodyear welt construction, shock-absorbing innersole, no side-slipping.

SCHOOL PRICE\$4.50

No. 57—White leather upper, non-marking sole, same construction as No. 56, same desirable features.

SCHOOL PRICE\$5.50

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THE "57"

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New Books on the Sportshelf

BASKETBALL. By Dr. H. Clifford Carlson. Pp. 220. Illustrated—photographs and diagrams. New York: Funk & Wagnalls Co. \$2.

BETWEEN the doctors Sutherland and Carlson the University of Pittsburgh teams have been getting a lot of good coaching these days. Pitt basketball, like its football, has commanded the respect and interest of experts wherever the team has played. Dr. Carlson's boys are a team of ball-handlers. They have an unusual ability to keep possession of the ball and keep it moving in short, rapid passes within the front court.

This synchronization of teamwork and player movement, identified by such titles as the figure of eight or pretzel offense, is one of Dr. Carlson's original contributions to the game. It is to Pittsburgh basketball what suspenders are to trousers. Through the years the Pitt coach has made slight alterations in the pattern but basically it remains the same. In his book Dr. Carlson outlines his system in great detail and gives the various continuities that are possible from the same basic pattern.

Although the figure of eight is Pittsburgh's trademark in eastern basketball circles, Dr. Carlson is not one to stand still. He is continually experimenting with something new. Last year we heard rumors of a new mystery attack that he had been working on, called the "reverse offense." With so much leniency being exhibited by the rules makers of late in regard to legal blocking, or screening, we thought Dr. Carlson had borrowed "Jock" Sutherland's famous deep reverse for his basketball team. We half-expected to find Goldberg and Stebbins running interference for one of Carlson's shifty forwards. But the Pitt coach's new offensive tactic is a trifle less blood-curdling.

In the reverse offense Dr. Carlson has one of his offensive men assume a defensive role on offense, believe it or not. Instead of trying to get behind his defensive opponent, this man will be content to stay in front of his guard; and pull him out rather than try to get through him. The Pitt coach believes this tactic has many possibilities. For one thing it can isolate one, two or even three men in zones which can be avoided by the men carrying the burden of the attack. The guard may be drawn to the corner, or "believing the defensive-offense player is a little insane," may disregard the man and give him a chance to cut, or take a pass, and lay up the ball for an easy basket. Dr. Carlson devotes an entire chapter to his novel theory. As astonishing as it may seem, what the Pitt coach is toying with is a zone offense!

Basketball makes very easy reading. Not only has Dr. Carlson unusual ability as a basketball teacher but he is a gifted story teller as well. The volume

brims with tales of his experiences as a coach of Pittsburgh teams. He uses these stories to emphasize various points of offense, defense and conditioning.

BADMINTON TIPS. By Carl H. Jackson and Lester A. Swan. 15 plates. Illustrated. Detroit: Sport Tips and Teaching Aids. \$3.

SCHOLASTIC COACH readers will remember Jackson and Swan as the gentlemen who collaborated on the excellent series of badminton articles which appeared in the April, May and June, 1938, issues. Their "Badminton Tips" is not a book. It is a set of visual aids bound in looseleaf fashion on 9½ in. by 12 in. flexible, semi-cardboard stock. There are fifteen full-page plates of white on black outline drawings, covering all the phases of the game.

The drawings are large, attractive and remarkably graphic since they have been traced from progressive action pictures. The captions are terse but authoritative. The form, size and brevity of the text is explained by the fact that these tips have been expressly designed for use on the floor of the gymnasium or club. The plates may be detached from the plastic binding and reinserted at will.

Anybody who has to teach the game or would like to learn it will find this illustrated lesson book of incalculable aid. Besides this bound edition the authors have also prepared a wall chart form which consists of the same material but in the form of four large charts (19 in. by 25 in.). The price for the complete set of wall charts is the same as for the bound form, \$3. Both versions may be purchased at a special price of \$5.

JUDO. By T. Shozo Kuwashima and Ashbel R. Welch. Pp. 119. Illustrated. New York: Prentice-Hall, Inc. \$2.50.

JUDO has something of a David-Goliath appeal. It is a sort of figurative sling shot with which the little man can protect himself against a bigger adversary. Armed with a knowledge of this form of self-defense, any undersized man, woman or child can throw a person twice his size into the middle of next week. All with an astonishingly small amount of effort. It takes an intelligent application of the principles of leverage and balance, rather than brute strength.

Lest the title be misleading, judo is nothing more than the modern scientific form of jiu-jitsu, which has been practiced by the royal families of Japan for over 2000 years. It is one of their methods of fighting without weapons, or fighting against weapons without weapons.

For this book the authors have selected only those movements which

can be mastered by the average individual; movements that can be accomplished with but a small expenditure of strength and without previous training or experience. There are thirty lessons on fundamental, action and throwing movements, with each lesson illustrated by a full page of photographs. The pictures are arranged on every left-hand page and the corresponding explanatory text, organized in caption form, appears on the facing page. This arrangement makes the lessons very easy to follow.

Judo contestants are distinguished by the color of the belts they wear during matches. White belts mark the beginner. The advanced students are distinguished by their brown belts. After attaining three degrees of the brown belt, the student wins the coveted black belt of the first degree. There are nine more degrees of black belt to be reached before the student can earn the tenth degree, held by only two men. Professor Kuwashima holds the fifth degree black belt.

FIGURE SKATING AS A HOBBY. By Diane Cummings. Pp. 132. Illustrated. New York: Harper & Brothers. \$2.

MISS Cummings' manual on figure skating, like Maribel Vinson's, is written primarily for the beginner. It offers simple, clear and thoroughly illustrated instructions on figure skating as recognized by the United States Figure Skating Association.

It takes the reader from the simple forward, backward and turning strokes to the progressively more complicated spins, spirals and jumps. Through the medium of diagrams and photographs, the author shows how to perform dance steps, forward loops and other graceful skating figures. In addition to this detailed instruction Miss Cummings, who is an expert amateur skater, imparts such helpful information as equipment, skating clubs and how to form them, how to start children on skates, etc.

In working on form, figure skaters place great stock in books of instruction. Japan, for example, had no skating instructors prior to 1932. Yet the Nipponese entered two contestants in the Olympic Games that year. The Japanese entrees had never seen any superior skaters perform. They had learned entirely from books and photographs!

HOCKEY (Fastest Game on Earth). By Mervyn "Red" Dutton. Pp. 196. Illustrated. New York: Funk & Wagnalls Co. \$2.

ONE of the greatest defensemen of all times, Red Dutton is also one of hockey's most articulate exponents. Great players can seldom write intelligently about the sport in which

they shine, but the manager of the New York Americans is a thoughtful fellow who has a gift for expression.

These qualities, coupled with his vast experience as a player and manager, make his book one which everybody can read with profit and enjoyment. The book is replete with suggestions for the beginner, hints for the spectator and threaded throughout with warm, personal anecdotes. A master strategist, he expounds the fundamentals of the defense, wings, centers and goaltenders, in simple, readable fashion.

To illustrate his book the author borrowed the interesting series of action stills which were used in the pictorial magazine, *Pic*, last year. The illustrations are actual shots from big league hockey games, each picture illustrating a particular technique or detail of strategy.

In an introductory chapter on the contribution of Canada to the game of hockey, the author makes the interesting observation that "the average youngster (in Canada) cannot separate in his memory when he learned to skate and when he learned to play hockey. Both run together. . . . They play with shinny sticks and hockey bats in the streets, on the backwoods ponds, and on thousands of lakes which dot the country from the frozen St. Lawrence River to Vancouver."

PRIMER OF FIGURE SKATING. By Maribel Y. Vinson. Pp. 182. Illustrated. New York: McGraw-Hill Book Co. \$2.75.

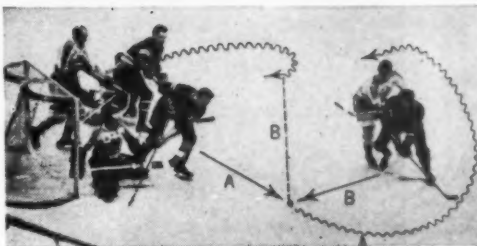
SINCE Sonja Heinie, with a little help from M.G.M., made the country figure-skating conscious during the past three years, there has been a demand for a primer on the ABC's of this fascinating diversion. Miss Vinson's book is expressly designed for the novice but her descriptions of the fundamental figures of skating should prove useful to every student of the sport, no matter how far advanced.

With text, diagrams and 150 action pictures taken especially for her book, the nine times champion of the United States carries the beginner through the tests of the United States Figure Skating Association, explaining every stage in seventeen of the forty-odd school figures, an additional number of free skating moves and the four important ice dances (waltz, fourteen-step, fox trot, and tango).

Figure skating is divided into two parts, the so-called "school figures" and "free skating." The former, as the name implies, are the basic edges, turns and changes of edge of which free skating is composed. Free skating entails long edges (spirals), dance steps, jumps, spins, and spread eagles skated over the whole surface of the ice and in rhythm with music.

The author herself demonstrates seventeen of the school figures in full page plates of progressive action pictures. The illustrations, together with Miss Vinson's detailed, easy-to-follow captions, paint a graphic picture of the sport.

Two great books about the sports you'll play, coach or watch this winter



← This shows two ways your wings can turn a rebound into a goal

HOCKEY

Fastest Game on Earth

By Mervyn (Red) Dutton

Manager, New York Americans

PICTURES like these, showing step-by-step how the stars win games help make Red Dutton's new book about Hockey a practical one for coach, player or spectator. What's the surest way to trap a goalie? . . . What are the six best defense plays? . . . How do the champions train themselves in attack, defense, passing, stick handling, speed skating, poke and body checking? . . . Questions like these Red Dutton answers out of twenty years experience in big league hockey. To have his book is to coach, play, or enjoy the game more than ever before. 32 PAGES OF ILLUSTRATIONS and many diagrams. Price, only \$2.00.

What's wrong with this play? →

YOU'D know at a glance whether these players are in position for a scoring play after reading Dr. H. Clifford Carlson's new book about basketball. As Head Basketball Coach at Pitt, he has turned out winning teams by methods others copy. Now he tells the secret of how he does it. Dr. Carlson's BASKETBALL tells the inside story of the attack which started the "systems" in basketball, with a clear and complete explanation of his "reverse offense" which startled the court world last year. 36 ACTION PICTURES and many diagrams help you put his knowledge to work for you. 230 pages. Price, \$2.00.

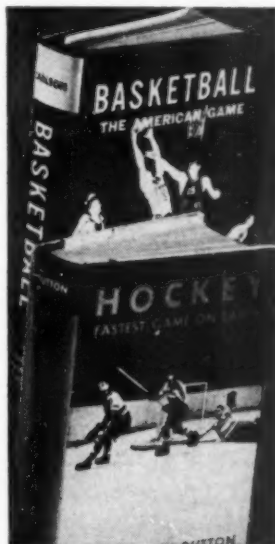


BASKETBALL

The American Game

By H. Clifford Carlson, M.D.

Head Basketball Coach, University of Pittsburgh



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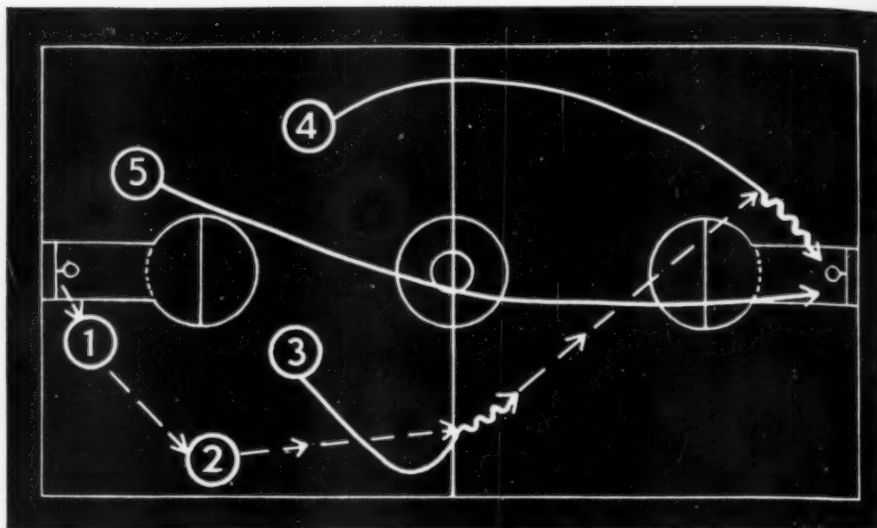
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THE DRAMA OF THE DIAGRAM

By Ralph E. Hensley

In the above diagram of a fast break, 1 recovers the defensive rebound. . .

GETTING 1 to pick off the defensive rebound is something that took me three years to accomplish. He was a big, yellow-haired sophomore when I got him. Six feet tall with plenty of feet and knobby, skinny legs, he was like a Christmas tree with a small base. Every time somebody left the gym door open the draft bowled him over. He fell down so many times and had so much difficulty getting back on his feet that I taught the rest of the squad to hurdle him so he wouldn't slow down our fast break attack.

The first season I taught him to jump. It was some task. For the first three months he could only jump from his knees up. His feet never left the floor. The second year I taught him where to jump. The third year I taught him when to jump.

In the diagram, 1 recovers the defensive rebound and hooks out quickly to 2. . .

I did not feel discouraged when 1's hook pass attempts broke three skylights, one window and the scoreboard clock. In any event he got the ball out to 2—at least in the diagram.

2 is another six-footer, both high and around the waist. Nice, easy going chap who grins blankly at you while you carefully explain what he is not to do. And then nodding his head in perfect understanding, he does it. Next time I notice he is so busy nodding in agreement that he doesn't hear what I am saying. He often nods before I tell him, thus saving me lots of coaching.

Compared with 1 though, 2 is a smart lad. In one season and seventy-

one hours of steady yelling, he learned to break to the side of the court for the outlet pass. When he learns he learns. Now as soon as he gets into the game he picks out a spot and then breaks there, regardless of the offensive basket, defense or me. However, in our diagram we have 2 with the ball and that's more than I can hope for in a game.

In the diagram, 1 hooks quickly out to 2 who rapidly surveys the down-court area and throws to 3. . .

Using the word "rapid" in relation to 2 is practically the Nth degree of exaggeration. I can see now how some of my predecessors in character building through basketball, developed the four-man defense and the hide-out man at the other end of the court. They had men like 2, who was always half a court behind the play. I tried to use 2 that way but he got the baskets mixed up and scored more for the opponents than for us. That wasn't so bad but when he started checking my own forwards I had to call him off.

In the diagram, 2 throws to 3 who dribbles a few steps to allow 4 to get into good position for a good angle drive to the basket. . .

My most ghastly mistake was in mentioning dribbling to 3. He was dribble demented. He dribbled and dribbled. Dribbling, you know, has a purpose—it drives coaches into other professions. 3 could dribble circles around the rest of my squad. And he did, while the rest of the team camped under the scoring basket. Frequently I had to turn the lights off in the gym to break up his tours with the ball.

By carefully explaining to him that dribbling to avoid a guard, or

dribbling to score, or dribbling with a definite purpose in mind was good basketball, I thought I broke him of the habit. But no, in one of the major contests he stopped the attack, the defense, and the referee, by dribbling the final five minutes while we were four big points in the rear. After the game he told me he had a purpose for dribbling, he was entertaining his girl.

The week I broke him of dribbling he joined a frat. 4 was the only other fellow on the squad who belonged to the same fraternity. That's how 4 got on the first five. 3 would only pass to him.

Of course the team play suffered. But both 3 and 4 claimed that the other boys were just jealous. Now 4, being a big man on the campus, a senior, and rapidly promoted to the varsity because of 3's backing and passing, it wasn't long before my coaching load was much lighter—4 was taking things in hand.

Getting 4 into a scoring position became quite a problem. Finding that it did not quite fit into his plans for him to break fast to the scoring territory, I finally arranged a bargain with him in which I agreed to exchange at least two lines of publicity for four breaks down the court each quarter.

In the diagram with 4 in a good position to drive in, 3 snaps him a fast pass and 4 lays it up on the basket rim where it rolls around and falls off. But 5 coming down the court fast from the other guard position follows 4 up and tips in the missed shot. . . .

Say that boy 5 is a real ball player. Fast, clever ball-handler, court wise, and a good shot, he will develop into a great star before long. I just borrowed him from the rival coach for this diagram. I had to score some way.

Grid Fatalities Drop

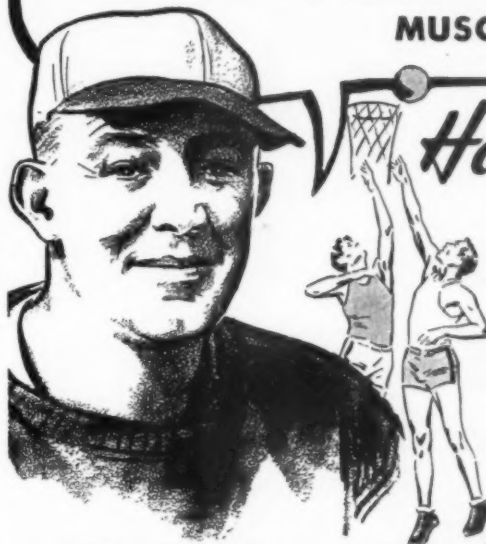
FOOTBALL fatalities in high school, college and sandlot games showed a decrease for the second successive year, according to a preliminary report issued early last month by Dr. Floyd R. Eastwood of Purdue University, the famous fatality statistician.

Fourteen deaths directly attributable to football and five indirectly due to football have been recorded through November 7. Last year, for the same period, there were sixteen deaths for which football was directly responsible. Of the fourteen fatalities, only one was reported from the colleges, that of Martin B. Morrow of Morgan Park Junior College in Chicago.

Seven fatalities were reported from high schools and four from sandlots. The high school fatalities directly due to football represented a drop of four from the same period in 1937.

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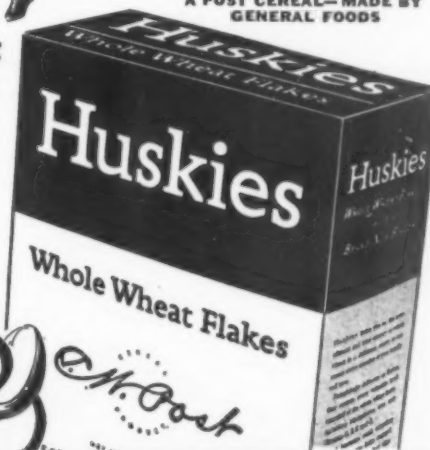
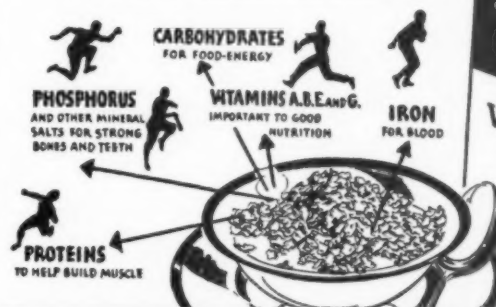
famous N.Y.U. basketball coach

TAKE a tip from Howard Cann, men! Eat Huskies! They have a delicious new flavor that's really different from any other cereal you've ever eaten . . . and what's more, Huskies are good for you! They give you all the valuable food essentials of whole wheat. That's why Huskies eat HUSKIES!

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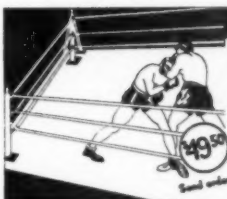
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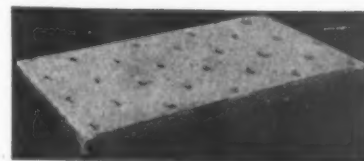
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If you have something for this column send it to Bill Wood, University High School, Iowa City, Iowa.

According to Sid Feder of the Associated Press, Minnesota has a sure fire way of "finding out when a groggy player should come out of a ball game. . . . They ask him, 'Who's your coach?' If he answers, 'Bernie Bierman,' he stays in. If he answers, 'Ben Bernie,' they yank him pronto."

A blue ribbon with a gold star goes to Coach Art Giesen of Radford, Va., for this next one.

"Several seasons ago my team was playing Jefferson High of Roanoke, a class A team. My boys, a class B outfit, were making a great defensive stand in the hopes of gaining a scoreless tie. Noticing that my center was in rather a dazed condition, I told the waterboy to take the smelling salts with him when he took out the water. I instructed him to take the smelling salts to Referee Guy Spruhan, a former Virginia Military Institute and Roanoke College coach, and to ask him to tell No. 11 to take a few whiffs. The message was delivered perfectly, but when the boy was asked where the smelling salts were, he replied with a look of surprise,

"Why, they're in the bucket; Coach told me to take 'em out with the water."

In an eight-game fall schedule Solon, Iowa, watched its classy baseball team score 100 runs. In the last game of the season against Amana, however, their star hurler, L. Zenishkek, struck out 17, allowed only 3 hits, and lost the game 1-0.

Just to make sure that everything was all set for the game with Sherwood, Coach Leland Vinz of Kenmare, N. D., called Coach Erickson to verify the contract that had already been sent. The game was scheduled to be

held at Sherwood on November 4. On that date Sherwood drove to Kenmare, while Kenmare journeyed to Sherwood, the two teams passing on the road without recognizing one another. Sherwood finally returned home and the game began.

It was a cold day with one of those famous North Dakota breezes whooping it up from the west. Kenmare scored twice against the wind, then they were forced to punt from the fifty-yard line. The ball went high up over the line of scrimmage and down the field; then the "breeze" caught it and sailed it right back toward the Kenmare goal. In a frantic attempt to retrieve his own punt, the kicker raced back, back, back—from the fifty to the very shadow of his own goal line. There the ball struck him on the leg, and then with another puff of wind it blew across the goal line and out over the end zone. Sherwood had scored an automatic safety on a Kenmare punt from the fifty-yard line! Some days it gets mighty windy out in North Dakota.

"Duke" Thayer, coach at White Pine High School in Ely, Nev., writes in to tell us that he has more nationalities represented on his football team than the "Fighting Irish" of Notre Dame ever had. One end is an Austrian and the other a Greek. A Norwegian and a French Basque hold down the tackle posts. The guards consist of an Irish-Italian and a Painte Indian-Mexican. The center is Greek, the quarter Turkish-Greek and the full-back Croatian. A full blooded Shoshone Indian and a Greek play the halfback positions. A Jewish boy, with a Scotch name, is also on the squad. In addition to these nationalities, the White Pine's team in 1937 had a Chinese center, a Japanese guard and—believe it or not—an Irishman at tackle. "Most of the boys," writes Thayer, "are first-generation Americans, and good ones, too."

We have heard of dimly lighted gridirons, but that one at North English, Iowa, evidently rates first prize. When a punt rolled out of bounds in a recent game, it is reliably reported that Referee Hollingshead had to strike a match to find the ball.

From Coleraine, Minn., Cliff King writes of a stunt that ticket managers may be able to turn to advantage. "On September 30 at our night football game we turned free some gas-filled balloons with tags on them. A few days later we received a letter from Cedar Hill, Tenn., that one was found there in a hay field on a hog weed. Cedar Hill is near Nashville."

Coach Wallace Baptist of Routt High School, Jacksonville, made use of the balloon idea to advertise his six-man game with Arthur High School. From the top of the highest buildings in town he turned loose about 100 balloons (air-filled) with announcements of the game attached. Twenty-five carried free tickets to the game and five free admissions to the homecoming dance after the game.

Ted Saur of Fairfield, Iowa, relays one that came up in a game between Burlington and Washington a few years back. A Burlington punter had just got off a long, high kick and had been knocked down and roughed on the play. Referee Pops Harrison tossed his cap on the ground at the spot of the foul and raced down the field to where the ball had come to rest sixty yards away. According to Ted, who was umpiring the game, the Burlington kicker came up to Harrison, who was explaining the situation to the Washington captain, and tapped him politely on the shoulder:

"Mr. Referee, here's your cap. You dropped it back there." In the meanwhile the head linesman had moved the stakes and chain!

Athletic Director Wallace V. Smith of Picher, Okla., reports that he cured his "practice cutters" by giving them a dose of their own medicine.

"In the early part of the season I scheduled a practice for Saturday afternoon. When I did not appear at the end of two hours waiting, the boys dwindled down to only three or four. Finally they too went home. On the following Monday I asked the boys what they had accomplished in their Saturday's workout. One readily answered, 'Nothing. You weren't here.' Then I drove home the point of cutting practice and how one man could upset the plans of the entire squad."

Out in Cripple Creek, Colo., the townspeople, as well as the coach, just can't understand how it happened. Recently the high school boys, who have been playing on an old cyanide dump, upset the Colorado Springs reserves 7-0. Coach Tom Dillingham started practice with twenty-five players, only seven of whom had ever seen a football game.

Paging Bob Feller. In a league game this fall George Bock of Nappanee, Ind., struck out 17 Millersburg batters, 14 of them in a row!

That novel stunt which North Carolina State used to draw a crowd to their game with Furman may be worth considering. The occasion was designated "Coat Hanger Day". The admission price for all boys under twelve was fifty coat hangers neatly tied together. The idea really clicked; not a thing went haywire.

If it looks like a tough season and any of you coaches would like to go South for the winter, it is rumored that Puerto Rico is in the market for coaching ivory. Anyway four of Long Island University's Blackbird's were offered jobs during their recent tour.

Pretty soon now football will be moved indoors, if things keep going they way they have. First a game was called on account of mosquitoes, and then the Dubuque University vs. Wartburg College contest bogged down in the mud at the end of the first half with Dubuque leading 20-0.

Out in Oklahoma the boys play for keeps. Emmett Kimbrough received the opening kick-off for Tishomingo High and lateraled to teammate Smith who raced forward to midfield from where it was evident he had a clear path to the goal. At that point a Caddo substitute inserted himself into the fray from the bench and brought Smith down with a beautiful tackle from behind. The fans all saw what had happened, but the officials didn't. When the ball was called dead at the point of the tackle, the war clouds burst. After a good deal of loose talk about tar and feathers the excitement died down, and Tishomingo went ahead to win 6-0.

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SHOTS MADE 21	5	8	24	10	10	5	92
PERCENTAGE MADE 11.5	8.5	12.9	15.1	5.5	11.0	8.5	39.5
SHOTS ATTEMPTED 172	64	75	203	14	9	16	38
SHOTS MADE 14	9	16	38	2	14	23	18.7
PERCENTAGE MADE 8.2	14.1	21.3	18.7				
TOTAL SHOTS ATTEMPTED 1546				1ST HALF 755			
TOTAL SHOTS MADE 308				2ND HALF 791			
PERCENTAGE SHOTS MADE 19.9				1ST HALF 12.5			
				2ND HALF 23.1			

SPOTTING THE SHOOTERS

By V. W. Lapp and G. T. Chubb

V. W. Lapp and G. T. Chubb collaborated two seasons ago on a study to determine from which positions on the floor a basketball player shoots most frequently and what his chances are for converting the shot. Lapp is an assistant professor in the department of physical education at the University of Kansas and Chubb is director of athletics and basketball coach at Westport Senior High School in Kansas City, Mo.

DURING the 1936-1937 basketball season a comprehensive shooting record was kept of all games played in the Kansas City Interscholastic League, a seven-school amalgamation which plays all its games on a maximum-sized floor in the new Municipal Auditorium. The original purpose of the study was to discover who on each team was making the goals and from what position on the floor the shots were being taken. Two students were assigned the task of charting the shooters and made 35 spot records during the season. In this period a total of 1,546 shots were taken, 308 of which were converted for a percentage of 19.9.

The shots were recorded according to the half of the game in which they were taken. It was found that 755 shots were attempted during the first half as compared to 791 in the second half. The goals made, like the shots taken, increased in the second half, 125 being converted in the first half and 183 in the second half. The shooting percentage also increased from 16.6 to 23.1 for the second half.

By demarcating the playing floor into zones it was possible to determine the choice shooting spots. The court was divided into halves by the division line, and each half was further broken down into six zones by extending the free-throw line to each sideline and by drawing lines tangent

to either side of the free-throw circle, parallel to the sidelines. The zones were numbered as follows: zone 1 is the left front, zone 2 center zone, zone 3 right front, zone 4 right back, zone 5 center back, and zone 6 left back.

Zone 2 had the most shots taken from it, 419 out of 1,546, and by far the highest percentage of conversions, 37.7 per cent. Over one-half of the successful shots were sunk from this zone (158 out of 308). The statistics also show that 1,136 shots were taken from the zones in front of the free-throw line, while only 410 shots were attempted from in back of it. Obviously, a player's accuracy is much greater from in front of the free-throw line. The statistics bear this out. The accuracy drops off by 9.5 per cent as the shooter moves from a position in front of the free-throw line where 22.4 per cent of the shots were converted to a position in back of it where only 12.9 per cent of the shots were made.

When the shots in the left zones (1 and 6) and the right zones (3 and 4) are studied, the chart shows that 457 shots were taken from the left, scoring 55 goals for a percentage of 12.0, while 420 shots were attempted from the right of which 80 were sunk for 15.4 per cent.

Every school had a better average for the second half. School C had the smallest difference, with .3 per cent, changing from 16.2 per cent to 16.5 per cent, while School A had the greatest difference, 18.2 per cent, its accuracy rising in the second half from 9.5 per cent to 27.7 per cent.

The coach of School B set 60 shots per game as the objective of his team. His team averaged 51.8 shots per game and it had the best percentage of made shots in the league. The av-

average number of shots per game varied from 51.8 to a low of 37. All teams but one averaged 40 or better shots per game.

When the rules committee eliminated the center jump last year, it was generally thought that the game had been speeded up tremendously. In order to see what effect the new rules had upon scoring in the Kansas City Interscholastic League, the scores for the 1936-37 season were compared with last year's. It was found that the average winner's score under the old rules was 25 and 26.6 under the new rules. An even smaller difference was noted in the loser's mean score, which showed a slight rise from 17.9 to 18.4. From the data it appears as if the new rule has had little effect on the game.

Against the Zone

(Continued from page 8)

must receive consideration.

Every high school coach likes to see his players go to college and "make" the team. Boys who were considered "ball-hawks" and all-county players back home, have been cut from a college squad simply because they were a pitiful sight on defense as victims of the fake, the give-and-go and the return pass. The following question may be raised, "Why not teach him those things when he gets to college." But it is difficult to teach an old dog new tricks as well as to break him of bad habits. Then, too, most college coaches expect the candidate to know the fundamentals by this time.

Some poorly-coached teams have defeated well-coached teams simply because they overpowered them. But these games were also poorly played and uninteresting to watch. It takes ten players to make a basketball game.

Right-of-way

We can learn a valuable lesson from safety in traffic. Carefulness and courtesy are the reducers of accidents. In driving a car we recognize the right-of-way, and at times we must concede the other fellow certain privileges even though we have the right-of-way. So, too, must we concede our opponents possession of the ball at times. Our job should then be to get the ball back in an honest and fair way.

If you have a sound reason for using the zone defense or any other offensive or defensive tactic, use it; but let us not use it as a crutch or to cover up our shortcomings as coaches.

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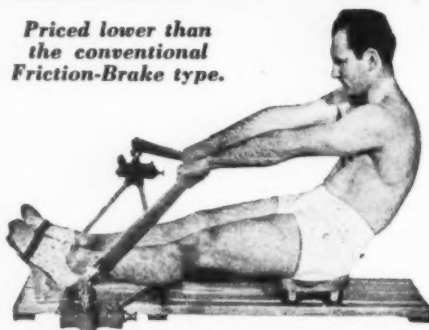
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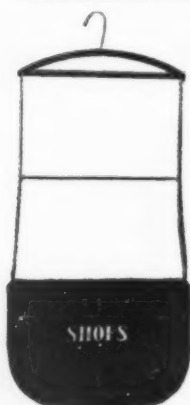
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From the States

(Continued from page 18)

Boonville and Harold Barrow of Fulton. The Association was fortunate this year to be able to secure, through the courtesy of the Athletic Association, the services of M. C. Cunningham of Des Loge, a member of the national rules committee, to lead the discussion of interpretations. It is also planned to present offensive and defensive tactics with discussions and demonstrations of each.

In the evening the visiting coaches will be the guests of the University at the annual clash between the Missouri Tigers and the St. Louis University Billikens.

C. E. POTTER,
Missouri H. S. Coaches Assn.,
St. James, Mo.

Illinois

Experimentation work

SEVERAL lines of experimentation were authorized by the state basketball committee which will be undertaken by members of the committee and other scientifically-minded individuals. This work will be along the following lines:

1. Several newly erected high schools are providing for at least one pair of backboards modified in accordance with the article on page 28 of the November *Scholastic Coach*. A group of committee men who do not have the facilities to build new boards will paint out various corner areas and collect data relative to the exact surface which is actually used. Comprehensive data will be collected on statistical sheets authorized by the committee.

2. Most of the committee members will play one or more games in which the watch will be stopped each time the ball is dead and started when it is next put in play. There will be a corresponding reduction in the length of quarters. As a guide, the committee has recommended that the quarters be reduced to six minutes when this method of timing is used.

3. Data are being collected on the effect of the use of the 29-inch ball in experimental games among senior high school students. The first of these experiments has been completed and a full report has been made by Wayne Eckley of Pontiac, Ill.

4. A thorough study is being planned to determine the actual use which is made of the area behind the backboard on courts where the four-foot space is provided.

5. Tests are being conducted to determine the variation in the bouncing reaction of the two approved types of molded ball. Considerable work is being done to determine whether there is any handicap in case a team plays one game with one type of ball and uses the other type in a succeeding game.

The molded type basketball has

come into almost universal use in this section of the country and the state committee has strongly recommended the molded ball for all scheduled games. If the sewed-type ball is the only one available, the visiting team should be notified at least one week in advance of the contest.

Blow at all-star games

At a recent meeting of the High School Athletic Assn. several amendments to the by-laws were adopted. According to the provisions of one of these new laws no student can retain his eligibility if he participates in an all-star team contest. No matter how chosen nor what group or territory such team may presume to represent, the participant will become ineligible for further interscholastic competition for a period of one year. All member schools are also forbidden to compete with any such all-star team.

Another clause bars a student from competing in any major interscholastic sport until he has filed a certificate of physical fitness, issued by a competent physician. Both of these amendments received the whole-hearted endorsement of all the schoolmen in attendance.

The group also recommends that the board of control draw up plans for athletic injury insurance which might be put into effect through the state high school office and which would be presented at the annual meeting next year.

Football rules changes

The state football committee has authorized continued experimental work with the movable type goal post and with goal posts on the goal line, provided sufficient pneumatic padding is attached at the base.

The committee considered the annual questionnaire which has been prepared by the national committee. They unanimously approved the following 1938 changes which are listed on the questionnaire:

1. Penalty for most fouls during or prior to a kick, pass or fumble is from previous spot.

2. Penalty for illegal shift is five yards.

3. No player may kick or bat a loose ball.

4. A minor incompleteness in B's end zone is a touchback only on fourth down.

5. A free kick is always made from between the inbounds lines.

They also voted to recommend adoption of the following proposals which also are listed on the questionnaire:

1. Consider try-for-point as starting with the snap instead of when whistle blows.

2. If a foul occurs in continuing ac-

tion following deadball (anywhere), enforce as for a foul between downs.

3. Eliminate the one remaining case of "free ball" and enforce penalty for foul during such period from spot of last possession. (Similar to enforcement for foul during return kick or pass not from scrimmage.)

4. Allow B to intercept any time (even after ball has touched ineligible player).

5. To make penalties for unsportsmanlike conduct by players and by non-players consistent: Change penalty for 5B-2-1 to same as for present 5B-1-2.

6. When there is a minor incompleteness in B's end zone on fourth down, allow B the option of a touchback or ball at previous spot.

H. V. PORTER,
Illinois H. S. Athletic Assn.,
Chicago, Ill.

Interscholastic Swimming Coaches Association of America

A TENTATIVE program has been worked out for the "Secondary School Day" on December 27 at the Fort Lauderdale aquatic forum. According to present arrangements the two hours between 10:00 A.M. and 12:30 P.M. will be devoted to a series of lectures and demonstrations. The men and their topics follow:

Bob Muir, Williams College, "Is the Breast Stroke Adaptable to School Boys?"; Hugh Matson, Detroit Eastern High School, "Classroom Presentation of Swimming Methods"; Howard Stepp, Princeton, "Fundamental Diving Techniques for School Boys"; Bob Kiphuth, Yale, "Secondary Schools' Contribution to the 1940 Olympics." The afternoon program will consist of an informal swimming meet among high school and prep school boys. The high school swimmers will compete in six events and the prep boys in five.

In the evening schoolboy swimming around the world will be discussed from 8:00 to 9:30 at the Champ Carr Hotel. Howard Stepp will speak on swimming in Poland and Scandinavia; John Miller about swimming in Germany; Bob Kiphuth, Japan; and Ed Kennedy, United States. On the evening before "Secondary School Day," Bob Nelson, Al Neuschaefer, Hugh Matson, and Matt Kelly will lead a panel discussion on conditioning.

ALFRED A. NEUSCHAEFER,
Intersch. Swim. Coaches Assn.,
Trenton, N. J.

South Dakota

Basketball picture

BOTH the Black Hills Conference and the Class B basketball races promise to be ding-dong affairs this winter. Deadwood, Vale and Spearfish, with practically the same teams as last year, have been installed as pre-season favorites in the Class B division. The

winner of the Black Hills region should prove a very serious contender for the Class B crown. Belle Fourche, Black Hills regional champion last year, has only three lettermen from last year's squad. Newell has only one and Sturgis three; so it looks like one of the veteran teams will come through this winter.

In the eastern part of the state, Sioux Falls, Mitchell, Watertown, Aberdeen and Yankton should do well, but should be pushed by some of the younger teams.

The recently concluded football season saw many upsets, quite in keeping with football the country over. There was more forward passing this year than last, due perhaps to the unusual number of good passers and receivers. The lateral pass was used to a greater extent, both lateral forwards and forward laterals.

The single wing predominated in the Hills, one team using a double wing, and several other elevens employing a short punt formation in conjunction with the single wing.

Attendance figures, in most cases, showed a marked increase. Belle Fourche installed a lighting system which contributed to an increase of over 100 per cent in attendance.

L. C. MCMAHAN,
Belle Fourche, S. D.

Amateur Athletic Union of U. S.

THE extent of the record-breaking feats of American athletes this year is reflected in the list of 144 new marks, eight above that of a year ago, which will be submitted for approval to the delegates of the A.A.U. at Washington early in December. All marks accepted will become American records.

Most significant of all the figures is that of 4:04.4 by Glenn Cunningham, the greatest mile ever run, indoors or out. The new record that was made on Dartmouth's fast indoor track on March 3, however, never will gain acceptance by the international federation even though it does pass into the A.A.U. American list because the I.A.A.F. does not recognize indoor standards.

The only track record made which will be advanced to the I.A.A.F. will be the 440-yard relay time of 40.5 seconds made by the University of Southern California last May. This may eventually replace the world mark of 40.8 made by another U.S.C. team in 1931.

Seventy-seven amendments to the constitution, by-laws and both general and athletic rules will be presented to the delegates at the same time. For the fourth consecutive year, opponents of the track metric system will seek a return to yards and miles for measuring distances. Two years ago, various districts were given the option of using either style. At the present time the national indoor and outdoor championship are about the only meets which operate on a metric basis.

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A B C D E G

Nutritional Values of Vitamins in Athletics

By Dr. Robert J. Fraser

This is the first of a series of two articles on the value of vitamins to athletes by Dr. Robert Jordon Fraser of Chicago.

MANY theories have been advanced in an attempt to explain why athletes go stale. Certain of these theories may partially explain some cases, but the majority of these theories are too far-fetched to be given serious consideration. In most slumps there is not just one contributing factor, but several factors acting together that produce the loss of customary effectiveness. Modern science has discovered new facts which probably can explain a majority of these slumps on the basis of vitamin deficiencies.

Leaving out the important mental angle of an athlete's equipment, athletic conditioning can be divided into two parts: (1) the mechanical phase and (2) the nutritional phase.

The mechanical phase is the physical exercising or training of muscles. A fundamental law of physiology is that to keep a muscle in health, exercise it by using it regularly. All that a muscle can do is to contract and by this contraction movement is produced. Through regular exercise, muscles are kept in "condition," or toned up, so that they will contract instantaneously and strongly.

Regular exercise does several important things to muscles. First, it promotes a healthy circulation of blood through the muscles. This circulation of blood provides an abundant supply of materials from which energy and nourishment are derived. It also carries away the waste products which are formed as a result of muscular activity. If this waste material isn't carried away fast enough it accumulates and produces fatigue. Regular exercise also prevents the depositing of fat between the muscle fibers. If fat accumulates throughout the muscle it interferes with the action of the muscle and consequently "slows down" the speed of muscular responses. This is what happens to the muscles of the ex-athlete who puts on weight after he drops all his heavy athletics and goes into the business world.

There is also another very important phase of conditioning—the nutritional condition of the muscles and of the body in general. *The mechanical phase of physical exercise cannot replace or*

compensate for a lack of proper nutrition of the muscles. This phase is something about which the average athlete knows practically nothing, and about which coaches and trainers give but little thought.

The human body, with its muscles, is a very intricate machine that requires a variety of "fuels," or nutritional materials, each day, in order to keep it in perfect running order. When we regularly supply it with the right amounts of each of these different materials, it functions with a high degree of efficiency. But if we persistently fail to supply it with enough of some of the materials it needs, and overload it with some of the other materials then very insidiously and imperceptibly, its efficiency becomes lessened and, later on, some of its functions become degraded.

Nutritional materials

The important nutritional materials needed by the muscles are: (1) carbohydrates (starches), (2) proteins, (3) minerals and, (4) the highly essential vitamins.

These materials are carried to the muscles by the blood. The blood, in turn, gets these from the food in the digestive tract. Thus, the nutritional materials supplied to the muscles, hence the "nutritional condition" of the muscles, is dependent upon the foods that are eaten. If the diet contains an abundance of the nutritional substances needed by the muscles, they will be maintained in a good nutritional condition. On the other hand, if the regular diet lacks enough of certain needed materials, the most common of which are the vitamins, then the muscles suffer a loss of efficiency in one way or another.

When an athlete is at the peak of his form his muscles are trained to a fine point. A muscle in this condition is much more sensitive to variations in its supply of needed nutritional materials, than are the muscles of a person who is not in training. Thus, an athlete can be "right" for a period of time because his muscles have been getting adequate quantities of the needed materials. Then, because his muscles are not being supplied with enough vitamins and other substances, he may temporarily lose his form and timing. Muscular responses are slower, coordination is off, his confidence becomes shaken and then he is really "off form."

We now begin to get an understanding of what the physiological differ-

ence is between being right and being off form. This difference is largely based on nutritional variations. The nutritional phase of athletic conditioning can vary from day to day, depending on the amount of food that is eaten and the contents of this food. The actual physical structure of the muscles does not vary from day to day. It is apparent, therefore, that variations in the nutrition received by the muscles must account for the difference between being "right" and "off."

We have already noted that the muscles need starches, proteins, minerals and vitamins. Practically everyone eats excessive quantities of starches and proteins, as revealed by extensive dietary surveys, so these can be excluded from this consideration. Certain alkaline mineral salts are regularly needed to maintain a proper condition of the muscle chemistry. These are very important also, but are outside the realm of this article. This leaves the vitamins, which we will discuss in the remainder of this article.

Since much confusion and misunderstanding exists in the mind of the average layman in regard to vitamins, a brief description of them at this point will help to clarify the situation. Vitamins are chemical substances, with very complex chemical structures, which are of vital importance in maintaining stamina, vitality, resistance and general good health. The body needs a certain amount of each of the vitamins every day. These nutritional substances are found in natural foods. Many agencies to which natural foods may be subjected act to destroy these vitamins, so that natural foods often do not contain nearly as high a content of vitamins as they should. There are six well known vitamins—A, B, C, D, E and G. They are so important that the word vitamin is based on the Latin word "vita," which literally means "life-giving."

Effect on muscles

One of the results of a deficiency of vitamin B is an impairment of the tonicity of muscles. Tonicity is a state of being in "readiness to respond" for action, which exists in all muscles. This tonicity is entirely automatic, being maintained by a continuous flow of impulses to the muscles from the nervous system. Muscular tonicity is also a means of economizing energy. Much less energy is required to contract a muscle that is in a state of tonus, or readiness, than to contract a muscle

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not in a state of tonicity. Figuratively, a muscle in a state of tonus could be said to be "up-on-its-toes," while a muscle not in a state of good tonicity could be said to be "flatfooted." The extent of the loss of tonicity is more or less in proportion to the degree of vitamin B deficiency that exists. This partial loss of muscular tonicity results in a slowing down of the speed of muscular reactions, which would throw an athlete's timing off. This is one way that a vitamin B deficiency could cause an athlete to slump.

The average American, including the average athlete, does not get enough vitamin B in his regular diet to prevent the ill-effects which attend moderate deficiencies of this vitamin. Of particular importance to athletes are the following defects which result from moderate vitamin B deficiencies: (1) a decreased ability of the body to use its energy reserves to the best advantage; thus there is a decrease in energy production, (2) a loss of vigor and vitality and, (3) profound fatigue.

Functions of Vitamin D

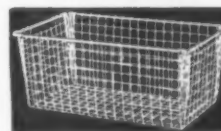
Among the functions of vitamin D is the promotion of general muscular health. Formerly it was thought that this vitamin was concerned with the development of bones and teeth alone. But today we know that its influence also extends to the general health. The means of producing this general effect is through its control of calcium. It has long been known that to enhance the diet with calcium improves the health, often markedly. However, a diet that is rich in calcium does not do the body so much good, if there is a vitamin D deficiency present, because the body is unable to use the calcium without the vitamin D. Among the defects resulting from a vitamin D deficiency is a general muscular weakness. The effect this condition would have on an athlete is self evident.

Thus, from the foregoing it can be seen that several of the vitamins play a role in muscular health. A prolonged, moderate deficiency of any one of these needed vitamins will sooner, or later, lead to losses of muscular efficiency which will throw an athlete off form.

Muscles will contract and perform their functions only when stimulated through their nerves. These nerves activate the muscles and control their actions. The muscles can be normal, but if the nerves that regulate their functions are abnormal, the muscular responses must also be abnormal. The speed of muscular reactions depends on two factors: (1) the condition of the muscle itself and (2) the condition of its controlling nerves. Quick muscular action, or instantaneous reflex action in emergencies, depends on a healthy condition of the nerves. A muscle without its nerves could no more contract and perform work than an electric light bulb could give off illumination if it had no electricity carrying wires connected to it. Thus, a brief study of the effects of vitamin deficiencies on the nervous system is appropriate.

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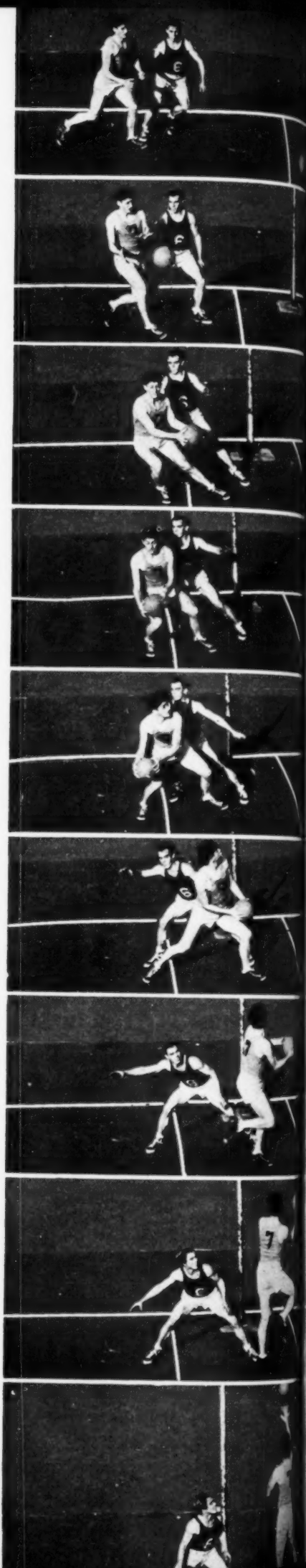
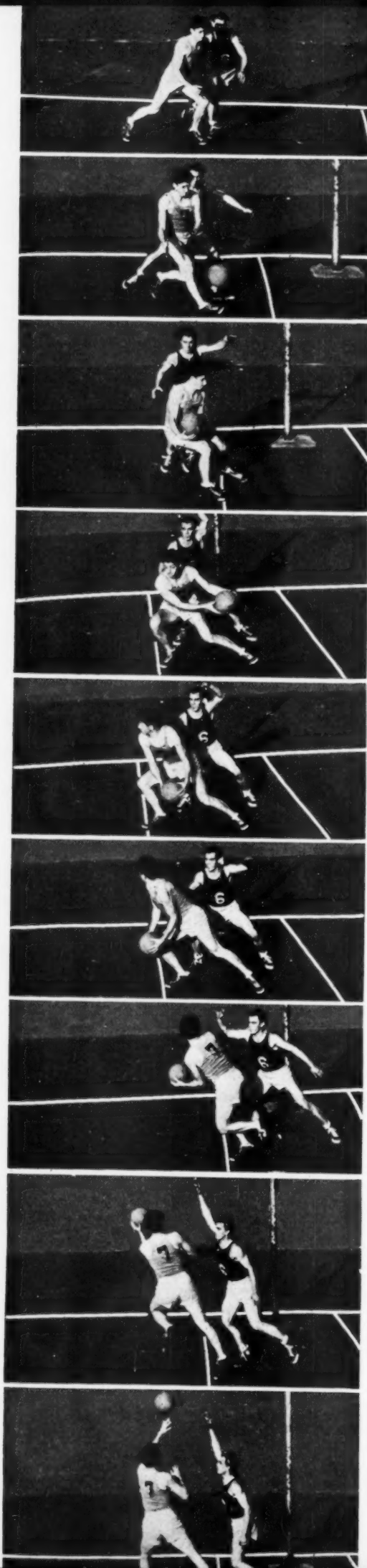
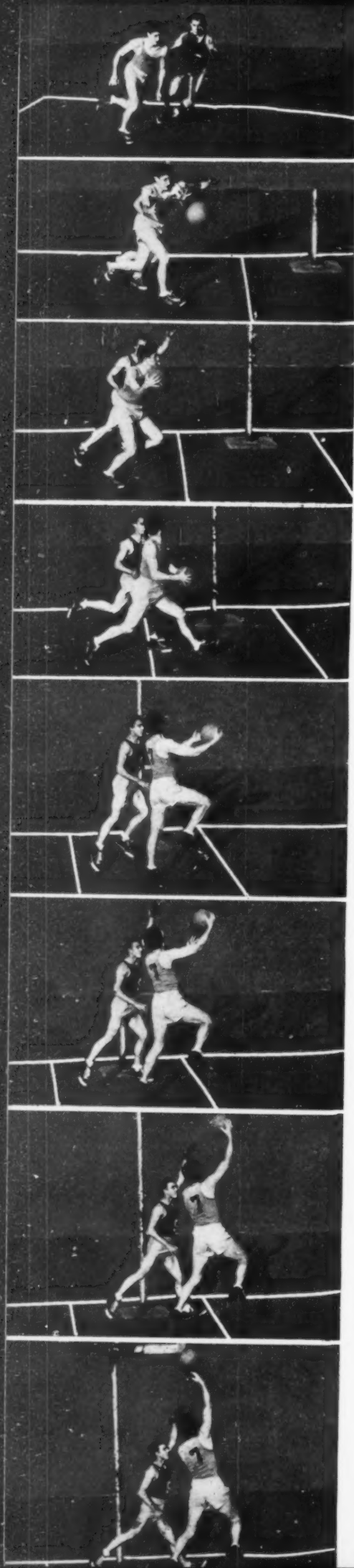
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Girls A. A. Notes

(Continued from page 25)

tional influence on the physical educational program, felt that their line of procedure should definitely be to offer similar opportunities to other high school students throughout the state.

With this idea in mind the members of the committee, taking the counties of the state as the basis for their division, organized 13 sectional groupings embracing 100 schools. A letter explaining the plan was sent to the principal of each of these schools. An experienced leader in each section was appointed and asked to organize and carry out one play day in her section sometime during the 1937-1938 school year.

What grew out of this move was entirely voluntary and was developed through the initiative of the leaders of the various units. There was no effort at uniformity. The type of play day was planned by each unit with due consideration of the facilities, experience and leadership available.

The state committee helped organize, suggested programs, and watched for success. The result was very gratifying. Everybody agreed that this was a step in the right direction and that more play days were desirable. Fifteen hundred (1500) girls participated last year, to many their first experience in the play day movement. The C.I.A.C. had appropriated \$200 for this experiment. \$199.61 was spent. The cost per girl was 13 cents.

This year the C.I.A.C. voted to carry on this work again, and appropriated an additional fifteen dollars to allow for expansion. Sufficient leadership is now available in practically every section of the state to allow for organization on a more neighborly basis and thus eliminate unnecessary traveling.

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ON PAGE 40 OPPOSITE THIS SPACE ARE
OTHER LISTINGS AND FORM FOR SIGNATURE

Does It Pay to Play in the Rain?

By Howard G. Richardson

Mr. Richardson directs the physical education department at Ridgewood, N. J., High School.

THE spectacle of two high school football teams struggling for supremacy in a game that requires skill, intelligence and physical ability, under weather conditions which positively preclude the possibility of a fair decision, is in and of itself somewhat ludicrous. We all know that a game of that type decides absolutely nothing, because real football cannot be played under adverse conditions. After or during a heavy rainfall the game develops into a mud-wallowing contest where the breaks will usually decide the result.

The first of the seven cardinal principles of education is health; and there is no question that football in inclement weather is dangerous to

the health of both the players and the hundreds of half-drenched school children who sit in the stands solely out of loyalty to their school. But aside from the very important consideration of health, there are economic reasons why high school authorities should not send the boys out to play in a quagmire.

High school teams do not have an advance ticket sale running into thousands of dollars, like the colleges. They have no stadium which has kept the athletic association in the red for years. A high school game played in the mud will attract few paying customers, even if the field has a covered grandstand to protect the spectators—something the average school does not have. So what is there so precious about a football game that makes it necessary to be played despite weather conditions?

The cost of repairing the field and

drying out and cleaning the equipment amounts to several hundred dollars, a heavy price to pay in order to provide sixty minutes of football for the few spectators. It seems foolish to exploit the health of the boys and to risk injury to the field and equipment for a game which could be postponed until it could be played under more favorable weather conditions. After all, high school football should be conducted for the enjoyment of the players and students, and not for the element which exerts pressure on the boys to play the game regardless of the weather.

In the past the high schools have had a tendency to follow the lead of the colleges, whose large pre-game ticket sales and Saturday scheduling make it almost impossible to call off a game. But high school men have been taking a more progressive stand in recent years. Last season the principals and newspapers of Cleveland lined up *en masse* behind a proposition by Floyd A. Rowe, directing supervisor of the Bureau of Physical Welfare, to postpone football games during inclement weather.

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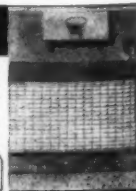
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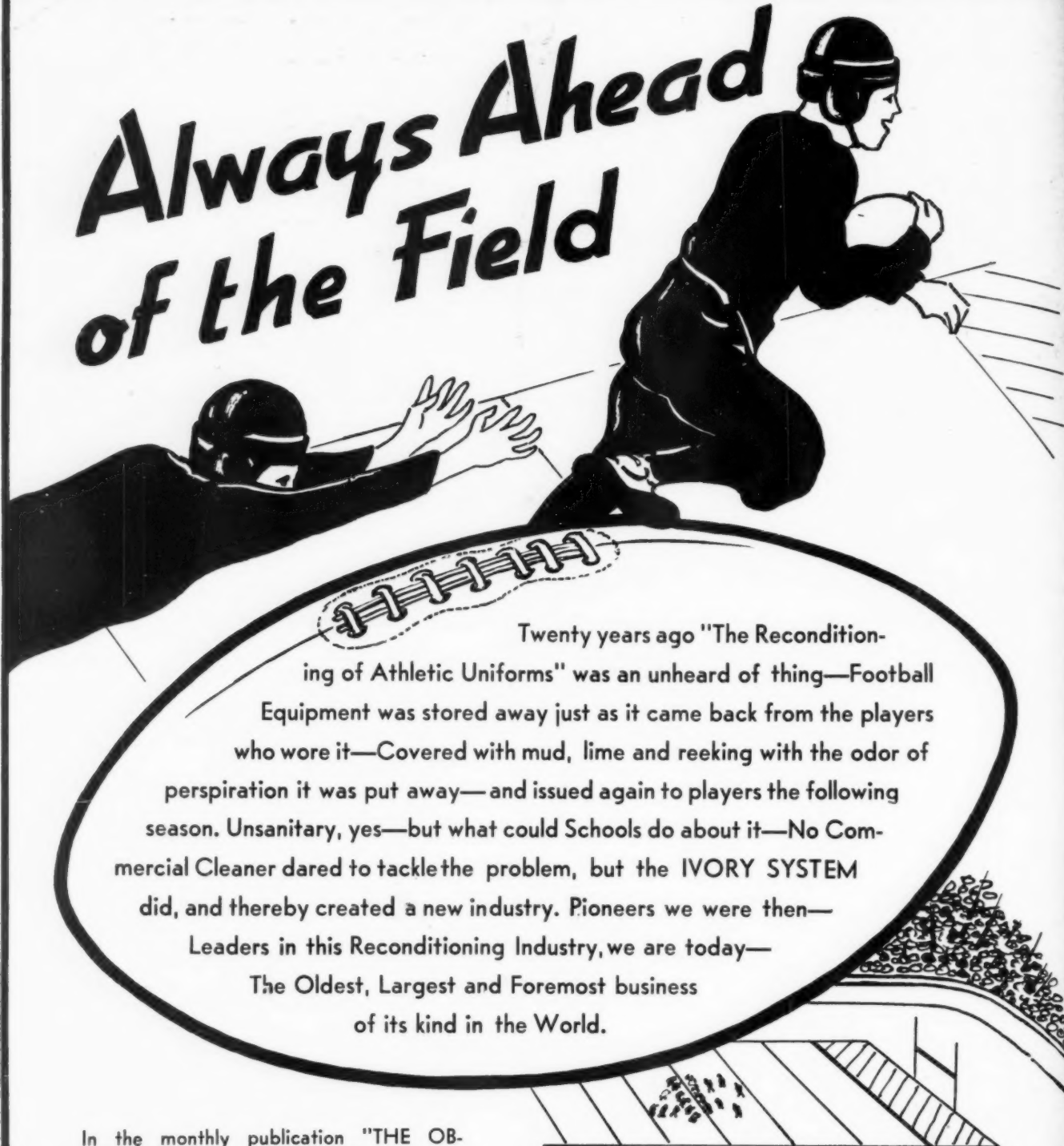
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